

ALBERTA

DEPT. OF
LANDS AND
MINES

ANNUAL
REPORT

1940-45

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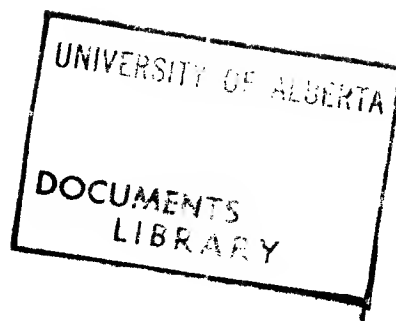
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ANNUAL REPORT
OF THE
Department of Lands and Mines
OF THE
PROVINCE OF ALBERTA
FOR THE
Fiscal Year Ended March 31st
1941

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY



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1942

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*To the Honourable J. C. Bowen,
Lieutenant-Governor of the Province of Alberta.*

SIR:

I have the honour to submit the report of the Department of Lands and Mines for the fiscal year ended March 31st, 1941.

I have the honour to be, Sir,

Your obedient servant,

N. E. TANNER,
Minister of Lands and Mines.

Edmonton, February 24th, 1942.

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GOVERNMENT OF ALBERTA
DEPARTMENT OF LANDS AND MINES

Resulting from the transfer on October 1st, 1930, of Alberta's natural resources from federal to provincial control, the Department of Lands and Mines was on this date brought into being by the Alberta Government. The general purpose of the new Department was to be one of supervision and management of the resources in question.

Ministers of the Department, responsible at different periods for this administration, appear as follows:

Hon. R. G. Reid, appointed October 2nd, 1930,
Hon. Hugh W. Allen, appointed July 10th, 1934,
Hon. Charles C. Ross, appointed September 3rd, 1935,
Hon. N. E. Tanner, appointed January 5th, 1937.

CHIEF OFFICERS
DEPARTMENT OF LANDS AND MINES

March 31st, 1941

Honourable N. E. Tanner	<i>Minister of Lands and Mines</i>
John Harvie	<i>Deputy Minister of Lands and Mines</i>
T. C. Rankine	<i>Departmental Solicitor</i>
V. A. Wood	<i>Director of Lands</i>
M. Gossip	<i>Agent, Calgary Land Agency</i>
J. J. E. Clarke	<i>Agent, Peace River Land Agency</i>
J. W. Hamilton	<i>Superintendent of Mining Lands</i>
H. Ingrey	<i>Inspector of Mining Rights</i>
T. F. Bleggen	<i>Director of Forestry</i>
E. S. Huestis	<i>Acting Assistant Director of Forestry</i>
F. W. Neilson	<i>Chief Timber Inspector</i>
A. Earnshaw	<i>Radio Superintendent</i>
E. S. Huestis	<i>Fish and Game Commissioner</i>
D. E. Forsland	<i>Acting Superintendent of Game</i>
H. B. Watkins	<i>Acting Superintendent of Fisheries</i>
T. W. Dalkin	<i>Superintendent of the Technical Division</i>
A. A. Millar	<i>Chief Inspector, The Coal-mines Regulation Act</i>
M. H. Pitcher	<i>Acting Inspector of Revenue, Calgary</i>
J. W. Patrick	<i>Acting Accountant</i>
J. L. Irwin	<i>Statistician</i>

SPECIAL AREAS BOARD

Head Office: Hanna, Alberta

A. C. McCully	<i>Chairman</i>
D. M. Graham	<i>Secretary</i>
G. R. Armstrong	<i>Member</i>

SPECIAL DISTRICT AGENTS

D. M. Graham	<i>Hanna</i>
R. B. Langley	<i>Oyen</i>
D. J. Wilson	<i>Consort</i>
S. Cherkas	<i>Lomond</i>
J. H. Todrick	<i>Supervisor, Edmonton</i>

THE PETROLEUM AND NATURAL GAS CONSERVATION BOARD

Head Office: Calgary

Robt. E. Allen	<i>Chairman</i>
F. G. Cottle	<i>Member</i>
J. J. Frawley	<i>Member</i>

REPORT

OF THE

Department of Lands and Mines,

1940-41

*Honourable N. E. Tanner,
Minister of Lands and Mines,
Edmonton.*

SIR:

I have the honour to submit the eleventh Annual Report of the Department of Lands and Mines for the fiscal year ended March 31st, 1941.

During the year to be reviewed by this Report, the world in general has passed through a terrible and devastating period. War has spread to almost every corner of the earth. Chaos and sudden death have come to many lands and no respite for a war-torn, war-weary earth is yet in sight.

It is something of a paradox, therefore, to report that during such a period this Department is able to present evidence of progress and advancement.

Such a situation, however, requires little explanation. Canada, so far, has been fortunate enough to escape the actual experience of war upon her soil. Alberta, an inland province, and one possessing great natural wealth, has been able to offer many of those products for which there is now so desperate a need. Products of her farms, and forests; fuel, oil and coal, for railway transport of materials to points of embarkation, aviation gasoline for wartime training planes, coal in ever-increasing quantities for shipment to far distant points in the Dominion requiring fuel, and other commodities which Alberta can supply and for which demands are now so urgent.

As stated in last year's Report, enlistments for active service have, of course, been taking place since the war began in the departmental staff. Civil servants are given indefinite leave until the end of the war or until they are discharged from whatever branch of the service with which they have been engaged, their respective positions in the Department becoming available to them on their return. As also previously stated, arrangements for the continuance of superannuation during their absence may be made so that the benefits of pensions on retirement would not become impaired.

The drain on experienced personnel is of course one of the many handicaps which governments and commercial institutions must anticipate under such terrible conditions as experienced by the world today.

By the close of 1941 enlistments for active service from the personnel of this Department totalled 39, 3 of whom were ladies who were taken on the strength of the Canadian Women's Army Corps.

The list at the close of 1941 was as follows:—

<i>Name</i>	<i>Date of Enlistment</i>	<i>Branch of Service</i>
Adin, R. G.	June 30, 1941	R.C.A.F.
Alexander, J. P.	July, 1, 1940	R.C.A.F.
Anderson, C. G.	June 30, 1941	R.C.A.F.
Arcand, Romeo	July 1, 1940	R.C.A.F.
Barnard, E. D.	September 20, 1939	Royal Canadian Signallers
Baxter, R. D.	November 13, 1939	8th Field Ambulance, R.C.A.M.C.
Bowen, R. L.	June 25, 1940	Calgary Highlanders
Brennan, W. R.	August 30, 1941	R.C.A.F.
Brent, Pearl M.	October 28, 1941	C.W.A.C.
Brick, H. A.	May 31, 1941	R.C.A.F.
Browne, O.	October 25, 1939	Edmonton Regiment
Bryant, H. J. P.	February 1, 1941	Canadian Provost Corps
Craig, Ace	May 6, 1940	Royal Canadian Navy
Dalphond, M. H.	June 22, 1940	R.C.A.F.
Fraser, C. M.	September 22, 1941	R.C.A.F.
Gauthier, L. P.	February 15, 1941	R.C.A.F.
Hutchison, J. A.	October 27, 1939	R.C.A.F.
Keats, F. V.	April 22, 1940	R.C.A.F.
Krause, R. F.	September 18, 1939	61st Battery R.C.A.
Lavoie, A. J.	June 1, 1940	South Alberta Regiment
Longson, Burgess	July 29, 1940	4th Petrol, R.C.A.S.C.
Magneison, J. A.	May 28, 1941	R.C.A.F.
Marr, F. B.	August 30, 1940	Royal Canadian Navy
McKee, R. M.	January 3rd, 1942	R.C.A.F.
Miller, E. Maureen	September 27, 1941	C.W.A.C.
McCardell, W. H.	March 13, 1940	R.C.A.F.
McKinnon, I. N.	May 2, 1940	R.C.A.F.
Newsome, R. T.	September 21, 1940	Royal Canadian Navy
Peart, Alfred	September 2, 1939	Edmonton Regiment
Pinkerton, H.	December 10, 1941	R.C.A.F.
Rees, D. B.	November 23, 1940	R.C.A.F.
Robertson, E. R.	May 7, 1941	Anti-Tank Battery
Russell, Isobel A.	September 16, 1941	C.W.A.C.
Shaver, E. P.	January 31, 1940	Royal Canadian Navy
Shillabeer, W. E.	October 31, 1939	Royal Canadian Navy
Strate, L. D.	May 20, 1941	R.C.A.S.C.
Sturrock, E. N.	January 15, 1942	R.C.A.S.C.
Walker, D. R.	August 15, 1940	R.C.A.F.
Young, D. J.	September 7, 1940	R.C.A.F.

In reviewing this list it should be pointed out that two names are deserving of special mention, Mr. J. A. Hutchison and Mr. E. P. Shaver, for the reason that both have risen to senior and influential rank in their respective services.

Mr. Hutchison, since rejoining the Air Service, has had more than one promotion and he is now Commanding Officer, with rank of Wing Commander, of No. 4 Initial Training School, R.C.A.F., in Edmonton. There are only some half dozen of these schools in the Dominion. The Edmonton school is one of the biggest and possesses a large staff of officers and several hundred men in training.

With active service in the Air Force during the last war, coupled with the signal distinction of this latest appointment, Wing Commander Hutchison has proved the value of his services. In the summer of 1941 he had the additional honour of being host to His Royal Highness, the Duke of Kent, during an inspection of the school in Edmonton. It is known that his present appointment was an extremely popular one and that his popularity in his new command has been well sustained.

Mr. Shaver, who for years before the war was active in the R.C.N.V.R. both in theoretical work and practical, the former in naval schools and the latter in many Pacific cruises, now holds the rank of Lieutenant Commander, R.C.N.V.R., and has been appointed to Staff Officer to the Naval Officer-in-Charge at Quebec.

Amongst the names in the preceding list it is learned with the deepest regret that Sergt. D. J. Young of the R.C.A.F. was killed in an aeroplane crash near Mountain View, Ontario, on July 22nd, 1941. Also, that Sergt. M. H. Dalphond, R.C.A.F., was officially reported missing on July 24th, 1941 after air operations over enemy territory. At a later date he was officially reported interned in Vichy, France, and is known to be safe and well.

Another report has been received covering Sergt. J. G. Rogers, R.C.A.F., who resigned from the Department in February, 1940 and enlisted in the Air Force on July 19th of the same year. He, also, it is our deep regret to state, is officially reported missing on August 20th, 1941 after air operations over enemy territory.

A name to be brought forward for special mention is that of Pilot Officer D. S. Florence, D.F.C., R.C.A.F. Mr. Florence for many years was a member of the Forestry Division of this Department. He resigned from the Department some time before the war to take up work with a large Alberta lumber company. With the declaration of war he entered the Canadian Air Force. Since then he has seen considerable service in many air raids over France and Germany.

On September 20th, 1941 the report was received that he had been awarded the Distinguished Flying Cross for meritorious work in air-raids over enemy territory.

The official citation is quoted as follows:—"This officer has proved himself as an enthusiast for night photography and had obtained photographs containing valuable information. Despite weather conditions and enemy opposition, the courses he had given his captain invariably were accurate. A very thorough and persevering navigator, he has done much to raise the standard of photography and navigation throughout the unit. As a bomb aimer he has been equally successful."

Recognition and honour of this nature are of a very high calibre. That they should have been bestowed on someone who for so long was associated with this Department is an incident of which the Department is justifiably proud. An expression of this pride has been sent to Pilot Officer Florence by his old comrades in the government service.

Before dismissing this subject I would like to say that those, whose names are now shown on the active service list—former civil servants of this Department now serving their country on land, sea or in the air—carry with them the sincerest wishes of every member of the Department for their preservation and for their safe return.

It is a list which has grown, is growing and undoubtedly will continue to grow.

The future is most definitely an unknown quantity. Additional demands of every nature will undoubtedly be made upon this Department. They must be met. Obstacles of many kinds will arise and they must be overcome. There is only one common objective to be reached—victory. To reach it, as quickly and as decisively as may be possible, every man and every woman must play his or her own particular part.

In my report last year I gave a brief picture surrounding the discontinuance of the granting of first and second homesteads and soldier grants in Alberta, which became effective on March 24th, 1939.

A short history of Alberta's homesteads, covering a period of 60 years, was presented. In it I stated the reasons for which these grants of land, particularly in the early days, were made. The virtues and the disadvantages which attended this form of settlement were shown, and finally the reasons given for the issue of new regulations whereby such rights would cease.

A table followed which divided the 60 year period into 3 sections of time—(1) from Confederation to 1905, when Alberta became a province; (2) from that date to 1930, when the natural resources came under provincial control; (3) from then to 1939 when the issue of these land grants ceased.

At the close of this statement it was revealed that during this period of over half a century a total of 120,302 homesteads had been granted in Alberta, covering an area of 19,284,438 acres or 30,132 square miles, equivalent to 11.80 per cent of the province's total area.

The place of homesteads and soldier grants has been taken by the issuance of agricultural leases on provincial lands which became effective on July 25th, 1939. The leases are for 20 year periods with the option of purchase after 10 years at a price based on the land valuation when first taken over before any improvements were effected.

Cultivation leases were also discussed in last year's report, which are issued on a 10 year basis, subject to renewal for a similar period, but, unlike agricultural leases, without the option of purchase.

Details surrounding these different subjects, together with those dealing with grazing permits and leases, were given so that the present day picture of land administration within the province might be presented.

During the year under review, as reported in the Lands Division section of this report, 281 applications for agricultural leases were received and 224 issued. This total is approximately only a quarter of that representing annual homestead totals in the last years of homestead distribution.

The reason for this should be obvious. Immigration has ceased with the war, man power is on active service and aliens are ineligible at present for land settlement.

The introduction of agricultural leases in the place of homesteads is unquestionably a sound step in the right direction and has opened a sane and orderly programme in the all-important question of land development.

The precautionary measure, whereby 50 per cent of the area applied for by the settler must be declared by the Department's soil survey engineers as being suitable for agriculture, is definitely beneficial.

It should be stated that at present the agricultural areas selected for development are restricted to the Calgary, Edmonton and Peace River districts. It is expected that these may be enlarged from time to time following examination by the soil surveyors.

In the pioneer days there was no government paternalism. Many an adventurous spirit tackled, without experience, the development of a quarter section too poor in quality and too remote from civilization to offer any hope of return or permanent tenure. Taxes mounted, remained unpaid, and abandonment invariably followed.

With the settler of today proceeding under the guidance of expert advice, prohibited by legislation from the errors of a past age and freed in the early years from mounting costs of taxation, the future opens more happily for a steady, prosperous and permanent development of Alberta's potential agricultural lands.

I referred at the beginning of this Report to the Department's progress and advancement during the year under review. This is evidenced in the Revenue and Production statement which follows later.

It will be noticed that in addition to the highest revenue ever secured in the history of the Department there appears a list of commodities all showing increased production.

Oil presents another increase of over a million barrels and natural gas consumption of over 2½ million Mcf. Coal reached a record figure with an increase of 686,983 tons. Lumber manufactured increased by 51,285,184 F.B.M. Many other increases are shown.

Evidence of the wartime demands for building commodities are demonstrated in the increases for stone, bricks, tiles, sand and gravel, cement and lime. Salt, with the completion of reconstruction of the plant at Waterways, increased by over 5,000 tons.

DEPARTMENT'S REVENUE AND PRODUCTION, 1940-41

The highest revenue in the history of this Department, excluding the Special Areas, was recorded this year. The total from the various branches reached \$2,031,494.38, an increase of \$87,395.56 over last year's figure.

Expenditures totalled \$670,278.85, a decrease of \$38,326.49 from last year's total. A surplus for the year of \$1,361,215.53 on income account is therefore reported. Details of these accounts, showing increases and decreases, are given in the Accounting Division's section of this Report.

Petroleum production once again showed an increase, which this year is recorded at 1,131,652 barrels. Natural gas consumption was increased by 2,603,782 Mcf.

Coal production, reaching the highest figure in the Department's history, showed an increase of 686,983 tons. Coke increased by 1,840 tons, briquettes by 19,617 tons and electrical power, used in the operation of Alberta coal-mines, by 4,084,193 k.w.hrs.

Shale mined during the year increased by 8,378 tons, bricks manufactured by 1,690,641 and tiles manufactured by 3,063 tons.

As a further indication of the wartime demands during the year for all materials, the following additional information is given:—Lumber, manufactured from timber cut on provincial lands increased by 51,285,184 F.B.M., production of stone by 17,842 tons, sand and gravel by 820,900 tons, cement by 36,337 barrels, hydrated lime by 15,050 tons and salt by 5,202 tons.

A total of 2,058 land patents, covering an area of 295,649.119 acres, is reported for the year. These totals are almost the same as those reported for last year. Details covering these notifications are given in the Technical Division's section of this Report.

As in previous years a chart accompanies same which shows the area of lands patented. The total area, from October 1st, 1930 to March 31st, 1941, is shown at 3,039,211.301 acres.

LANDS ADMINISTRATION

Details relating to provincial and school lands administration are given in the Director of Lands section of this Report.

FOREST SERVICE

Fire Season.—In the accompanying statement dealing with summary of annual fire losses, it will be seen that the total loss for 1940 was over \$300,000 of that shown for the preceding year—to be exact, an increase of \$311,920.81.

General totals from 1930, year of the transfer of the resources, to 1940, inclusive, give a grand total for fire suppression costs of \$805,434.03 and \$7,716,754.86 for total loss of timber, young growth and of other property.

Radio.—One of the greatest achievements in the detection and suppression work of forest fires in Canada has been made by the Province of Alberta in the introduction of radio.

The use of radio in this respect has so speeded up the notification of fires to suppression crews that action can now be taken within a very short time of the starting of a fire, as opposed to unavoidable delays in the past during which a fire might reach disastrous proportions.

The completion of the radio set-up within the next two years will extend to all timber areas of the province those benefits which, during the past two years, have been derived in those areas already supplied with this equipment, which already has resulted in the loss of timber being so materially reduced.

Timber Industry.—Lumber manufactured from timber cut on provincial lands increased from 120,251,376 F.B.M. to 171,536,560 F.B.M. as shown in the following statement.

LUMBER MANUFACTURED FROM TIMBER CUT ON PROVINCIAL LANDS

Fiscal Year	F.B.M.
1935-36	84,555,400
1936-37	99,153,002
1937-38	139,508,403
1938-39	115,467,580
1939-40	120,251,376
1940-41	171,536,560
Total.....	730,472,321
Increase this year in comparison with last	51,285,184

The quite substantial increase shown for this year was due to wartime requirements calling for large quantities of lumber and also to additional quantities of mine props particularly in demand by steam coal mines. Operations of this classification of coal were very much greater during the year due to coal demands by the railways for moving the bumper crop and for the transporting of great quantities of war material and provisions to the Atlantic seaboard.

Further details surrounding these subjects, and others coming under the general heading of Forestry, are given in the Forestry section of this Report.

SUMMARY OF FIRE LOSSES WITHIN ALBERTA FOREST RESERVES

Period	Number of Fires	Area (Acres)	Salvable Timber M.f.b.m.	Salvable Timber (Cords)	Unsalvable Timber M.f.b.m.	Unsalvable Timber (Cords)	Cost of Suppression	Total Loss
October 1, 1930 to March 31, 1931.....	9	41,925			2.00	129.00	\$ 551.67	\$ 71.69
April 1, 1931 to December 31, 1931.....	31	52,218.05	2,370.50	3,086.00	6,295.73	111,599.00	17,624.12	154,651.47
Calendar Year 1932.....	32	2,555.75	8.00	15,863.00	3,845.00	1,005.60	3,490.04	8,790.73
Calendar Year 1933.....	39	29,275.88	26.75	1,201.00	19,188.25	108,414.00	18,409.92	95,796.93
Calendar Year 1934.....	47	21,963.00	1,510.00	9,200.00	2,661.00	209,550.00	31,118.51	96,179.87
Calendar Year 1935.....	12	6.50				60.00	94.36	45.50
Calendar Year 1936.....	52	165,465.00	7,573.00	25.00	885,192.00	764,594.00	108,894.48	1,504,273.45
Calendar Year 1937.....	17	90.00			37,500.00	8.50	387.38	292.05
Calendar Year 1938.....	18	13,111.50	13,740.00	5.00	518.50	1.50	9,422.79	36,556.45
Calendar Year 1939.....	46	38,213.75	292.00	1,982.00	4,229.00	54,721.00	49,056.68	101,455.13
Calendar Year 1940.....	30	2,929.50	1,000.00	730.00	3.00	3,429.00	6,999.81	14,164.25
TOTALS.....	333	325,870.85	26,520.25	32,092.00	959,434.48	1,233,511.60	246,050.96	\$2,012,293.32

SUMMARY OF FIRE LOSSES OUTSIDE ALBERTA FOREST RESERVES

Period	Number of Fires	Area (Acres)	Salvable Timber M.f.b.m.	Salvable Timber (Cords)	Unsalvable Timber M.f.b.m.	Unsalvable Timber (Cords)	Cost of Suppression	Total Loss
October 1, 1930 to March 31, 1931.....	47	11,145.19	155.00	104,199.00	122,690.50	684,625.50	\$ 686.64	\$ 79,950.85
April 1, 1931 to December 31, 1931.....	591	552,658.07	134,536.00	12,215.00	40,627.15	15,320.51	82,088.89	712,835.79
Calendar Year 1932.....	347	133,562.14	274.75	13,933.50	41,694.50	59,545.00	16,971.75	152,085.56
Calendar Year 1933.....	249	36,907.00	3,404.50	3,159.00	1,513.00	14,464.00	7,050.51	100,008.43
Calendar Year 1934.....	186	6,313.25	160.00	1,195.00	1,513.00	5,371.00	1,558.90	29,825.77
Calendar Year 1935.....	156	38,989.00	2,374.00	23,116.00	659.00	6,017.00	13,647.81	45,656.85
Calendar Year 1936.....	358	835,169.00	14,702.00	33,113.00	251,544.00	609,837.00	54,952.28	1,088,173.90
Calendar Year 1937.....	303	1,745,224.00	35,382.50	23,034.00	650,844.50	1,974,651.50	207,632.70	2,009,679.82
Calendar Year 1938.....	433	30,925.50	1,305.00	19,336.00	128,129.00	537,186.00	99,241.41	540,655.08
Calendar Year 1939.....	283	471,314.75	200.00	150.00	141,861.00	775,736.00	60,231.67	939,866.77
Calendar Year 1940.....	3,305	4,286,707.02	196,877.25	233,490.50	1,380,113.90	4,800,176.00	559,383.07	\$5,704,461.34
TOTALS.....								

SUMMARY OF FIRE LOSSES WITHIN AND OUTSIDE ALBERTA FOREST RESERVES

Period	Number of Fires	Area (Acres)	Salvable Timber M.f.b.m.	Salvable Timber (Cords)	Unsalvable Timber M.f.b.m.	Unsalvable Timber (Cords)	Cost of Suppression	Total Loss
October 1, 1930 to March 31, 1931.....	56	11,187.115	155.00	104,199.00	122,690.50	684,625.50	\$ 686.64	\$ 79,950.85
April 1, 1931 to December 31, 1931.....	622	604,876.12	134,536.00	12,215.00	40,627.15	15,320.51	82,088.89	712,835.79
Calendar Year 1932.....	379	136,117.89	282.75	13,933.50	41,694.50	59,545.00	16,971.75	152,085.56
Calendar Year 1933.....	288	93,765.00	4,410.25	12,359.00	1,513.00	14,464.00	7,050.51	100,008.43
Calendar Year 1934.....	240	58,870.00	1,600.00	1,195.00	1,513.00	5,371.00	1,558.90	29,825.77
Calendar Year 1935.....	97	6,313.25	160.00	1,195.00	1,513.00	5,371.00	1,558.90	29,825.77
Calendar Year 1936.....	248	204,454.00	9,947.00	23,141.00	885,851.00	770,611.00	122,542.29	1,549,930.30
Calendar Year 1937.....	375	835,259.00	14,702.00	33,113.00	289,044.00	609,845.00	55,339.66	1,088,465.95
Calendar Year 1938.....	521	1,738,345.50	49,122.50	23,059.00	651,363.00	1,974,653.00	217,055.49	2,046,236.27
Calendar Year 1939.....	499	429,139.25	1,597.00	21,318.00	132,358.00	591,907.00	148,298.09	642,110.21
Calendar Year 1940.....	313	474,244.25	1,200.00	880.00	141,864.00	779,165.00	67,231.48	954,031.02
TOTALS.....	3,638	4,612,577.875	223,397.50	265,582.502	339,548.38	6,053,687.60	805,434.03	\$7,716,754.86

MINING LANDS ADMINISTRATION

Information dealing with quantities and valuations of Alberta's non-metallic minerals produced during the year are given in the Report of the Mining Lands Division. To this is added details covering mineral rights, solid, liquid and gaseous, revenue from fees, rentals, bonuses and royalties, reservations of areas for geological examination and acquisition of varying forms of mineral leases.

Leases dealt with.—Totals of leases issued from October 1st, 1930—date of natural resources transfer—to March 31st, 1941 are shown as follows:—Leases active at date of transfer, 19,635; issued, 9,469; reinstated, 61; divided, 350; cancelled, 24,824; renewed, 256; active as at March 31st, 1941, 4,435. Areas covered by same are given in a separate statement.

Coal.—The table dealing with royalties on coal, produced in former years, is shown from the fiscal years 1907-8 to 1940-41 inclusive.

SALT

Salt, production totals for which are given from 1938, showed an increase of 5,202 tons for the calendar year 1940.

Reconstruction of the plant at Waterways was completed by the close of 1939, which accounts for the noticeable increase. The new plant at Waterways has a productive capacity of approximately 1,000 tons a month.

The salt deposit of Waterways was discovered some years ago whilst test-drilling to determine depths of bituminous sands. The deposit, some 200 feet in depth, and about 700 feet below the surface of the ground, tests from 98.27 per cent to 99.57 per cent in purity. An estimate by Dr. J. A. Allan, Department of Geology, University of Alberta, places the value of this salt reserve at 500,000 tons to the acre with a total of 30 million tons in the deposit, sufficient, at present rate of consumption, to supply the demands of the entire Dominion for a period of 60 years.

Production for the last three years is as follows: 1938, 3,995 tons; 1939, 3,322 tons and 1940, 8,524 tons. A well-head valuation of \$10.00 a ton is given.

PETROLEUM AND NATURAL GAS

Number of Turner Valley Wells.—Following the discovery of crude oil in the limestone, made by the Turner Valley Royalties well on June 16th, 1936, the numbers of Turner Valley oil wells placed on production and shown by annual totals are as follows:—

Year	Number of Wells
1936	2
1937	22
1938	36
1939	34
1940	36
Total number of producing oil wells in Turner Valley by December 31st, 1940	130

Ten wells, in addition to this total number, were completed during this period, but developed either as gassers or were abandoned as unproductive.

Petroleum and Natural Gas Conservation Board.—With the resignation of Mr. C. W. Dingman, Deputy Chairman of the Alberta Petroleum and Natural Gas Conservation Board, the appointment of Mr. Robert E. Allen to the position of Chairman of the Board was approved by the Alberta Government in September, 1940.

Mr. Allen, coming from California, brought recommendations from the Petroleum Division of the United States Government as a petroleum engineer and oil conservation expert of outstanding ability.

Production of Turner Valley's oil and gas is regulated by the Board through the issuance, on the first of every month, of production quotas for individual wells for the month ahead, which are stated in published orders.

The underlying principle in the Board's general administration is that of securing a maximum recovery of oil from the Turner Valley field over an unknown period of time and at the least possible injury to the field.

Alberta Aviation Gasoline.—Equipment for the processing of Alberta oil for aviation gasoline was installed during the year in provincial refineries. Resulting from this the home product was used and will continue to be used by Royal Canadian Air Force units in Alberta and in other western provinces.

With the ever-increasing number of planes, demands for this fuel are naturally growing all the time. A new market has been established. It will quickly expand.

British Empire Production.—Of the 27 oil producing countries of the world in 1940, Canada took 13th place and second place once again amongst the 7 production areas of the Empire.

The estimated total figures for the Empire show little change. Increases of about one million barrels each appear for Trinidad and Canada. Burma shows a slight increase, India a slight decrease; Brunei and Sarawak in Borneo remain about the same. Bahrein Island in the Persian Gulf showed another decrease, of approximately 400,000 barrels this year, as compared with the decrease of about twice this figure shown for the previous year.

Canada, as in former years, secured her oil production in 1940 from the four sources of Alberta, Ontario, New Brunswick and the Northwest Territories. The 1940 production figures for Alberta, shown in the table given on the next page, are official and not estimated. Official figures for the rest of Canada for this period are not yet available.

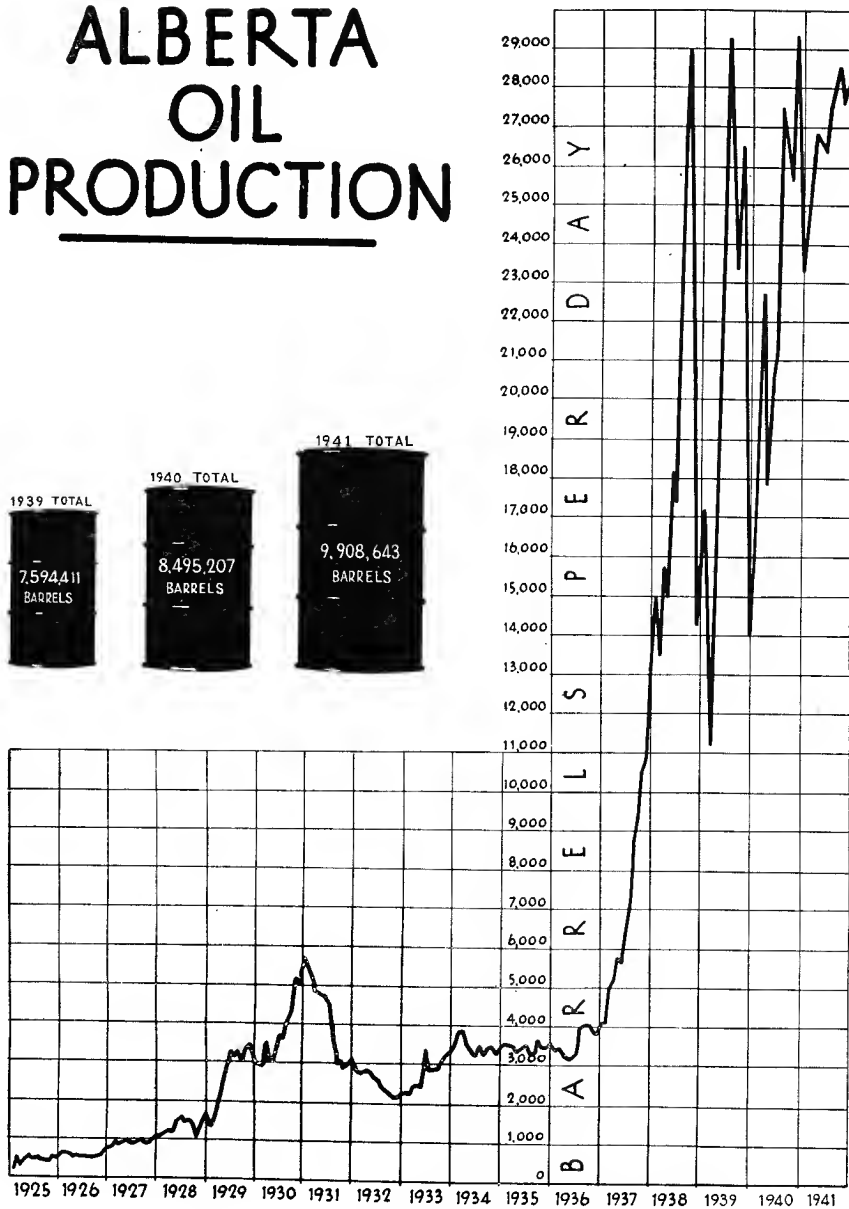
In establishing Canada's present position as an oil producing country, the following information is perhaps of interest.

The British Empire in 1940 produced only 2.46 per cent of the world's oil supplies. Canada, 16.2 per cent of the Empire's supply, and Alberta, 99.33 per cent of Canada's. Almost the entire Alberta production—99½ per cent—came from Turner Valley, with the remaining one-half of one per cent coming from the other provincial fields. Of this insignificant fraction about one-third was secured from the international border area and the remaining two-thirds from the area of Vermilion-Wainwright-Lloydminster.

ALBERTA OIL PRODUCTION BY FISCAL YEARS

Period	Barrels
1914 to close of fiscal year, 1928-29	1,453,404
Fiscal year, 1929-30	1,135,014
1930-31	1,614,202
1931-32	1,246,328
1932-33	871,082
1933-34	1,141,473
1934-35	1,246,958
1935-36	1,249,596
1936-37	1,447,661
1937-38	3,680,099
1938-39	6,651,068
1939-40	8,039,279
1940-41	9,170,931
Total.....	38,947,095
Increase this year in comparison with last	<u>1,131,652</u>

ALBERTA OIL PRODUCTION



DEPARTMENT OF LANDS & MINES, EDMONTON, JANUARY, 1942

PETROLEUM PRODUCTION IN THE BRITISH EMPIRE, 1932 TO 1941 INCLUSIVE

Country	1932		1933		1934		1935		1936	
	Barrels	Per Cent	Barrels	Per Cent	Barrels	Per Cent	Barrels	Per Cent	Barrels	Per Cent
Trinidad	10,126,121	43.1	9,561,353	41.2	10,894,363	41.2	11,671,224	40.7	13,237,030	39.2
Canada	1,044,412	4.4	1,145,333	4.8	1,401,895	5.3	1,447,204	5.0	1,504,287	4.5
Bahrain Island	7,073,437	30.1	7,114,311	30.0	7,278,859	27.5	7,181,113	25.1	7,587,718	22.5
Burma	1,200,026	5.1	2,035,656	8.6	2,705,350	10.2	3,302,905	11.5	3,296,938	9.7
Brunei	1,743,878	7.4	1,628,803	6.9	1,921,863	7.3	2,037,810	7.1	1,978,329	5.8
India	2,329,733	9.9	2,206,815	9.3	1,942,591	7.4	1,776,593	6.2	1,547,882	4.6
Sarawak										
Total British Empire	23,518,509	100.0	23,723,648	100.0	26,429,993	100.0	28,681,656	100.0	33,796,819	100.0
World Total	1,306,714,101		1,438,767,449		1,517,121,671		1,651,993,118		1,797,993,378	
Per Cent, British Empire of World		1.80		1.65		1.74		1.74		1.88

Country	1937		1938		1939		1940		1941*	
	Barrels	Per Cent	Barrels	Per Cent	Barrels	Per Cent	Barrels	Per Cent	Barrels	Per Cent
Trinidad	15,502,989	36.8	17,737,060	35.5	19,270,000	37.7	20,300,000	38.2	21,100,000	38.5
Canada	2,943,720	7.1	6,956,811	14.0	7,843,780	15.2	8,723,982	16.5	10,101,643	18.3
Bahrain Island	7,762,264	18.4	8,298,000	16.7	7,588,560	14.8	7,200,000	13.5	7,070,000	12.9
Burma	7,847,523	18.5	7,499,500	15.0	7,396,000	14.4	7,750,000	14.6	7,900,000	14.3
Brunei	4,397,038	10.5	5,387,210	10.8	5,755,000	11.1	5,742,000	10.7	5,245,000	9.6
India	2,161,653	4.9	2,330,700	4.7	2,164,000	4.2	2,150,000	4.1	2,245,000	4.0
Sarawak	1,655,565	3.8	1,624,880	3.3	1,327,000	2.6	1,321,000	2.4	1,275,000	2.4
Total British Empire	42,270,812	100.0	49,833,661	100.0	51,344,340	100.0	53,186,982	100.0	54,936,643	100.0
World Total	2,046,650,389		1,979,268,510		2,068,667,520		2,158,123,000		2,222,535,000	
Per Cent, British Empire of World		2.06		2.51		2.48		2.46		2.47

*Preliminary figures

NOTE:—In the total of 10,101,643 barrels shown for Canada in 1941, 9,908,643 barrels or 98.08 per cent were produced in Alberta

DEPARTMENT OF LANDS AND MINES

ALBERTA OIL PRODUCTION BY CALENDAR YEARS

Calendar Year	Barrels	Calendar Year	Barrels
1914 to 1924.....	96,504	1934	1,265,940
1925	168,643	1935	1,263,750
1926	219,598	1936	1,320,442
1927	332,133	1937	2,796,908
1928	489,531	1938	6,742,039
1929	999,152	1939	7,594,411
1930	1,433,844	1940	8,495,207
1931	1,455,195		
1932	917,622	Total.....	36,603,959
1933	1,013,040		
Increase this year in comparison with last			900,796

NATURAL GAS CONSUMPTION

Fiscal Year	Mcf.
1939-40	24,140,489
1940-41	26,744,271

COAL

Coal production in Alberta during the year under review reached the highest total—6,205,088 tons with a valuation of \$16,334,323.11—since the transfer of the natural resources to provincial control in 1930, showing an increase of 686,983 tons over the previous year. An additional 322 tons were produced by farmers under permit for their own use during the year. This figure is not included in the total output mentioned above.

The reasons for this increase, as already stated, are due to additional railway fuel requirements for moving the bumper crop and for transporting war materials to ocean ports, together with an increased domestic demand for Alberta coal from different points in the Dominion, especially from Ontario.

COAL PRODUCTION OF ALBERTA

(Under federal control)

Calendar Year	Tonnage	Valuation	1909	1,994,741	4,838,109
1886	43,220	\$ 81,112	1910	2,894,469	7,065,736
1887	74,152	157,577	1911	1,511,036	3,979,264
1888	115,124	183,354	1912	3,240,577	8,113,525
1889	97,364	179,640	1913	4,014,755	10,418,941
1890	128,753	198,298	1914	3,683,015	9,350,392
1891	174,131	437,243	1915	3,360,818	8,283,079
1892	178,970	460,605	1916	4,559,054	11,386,577
1893	230,070	586,260	1917	4,736,368	14,153,685
1894	184,940	473,827	1918	5,972,816	20,537,287
1895	169,885	382,526	1919	4,933,660	18,205,205
1896	209,162	581,832	1920	6,907,765	30,186,933
1897	242,163	630,408	1921	5,909,217	27,246,514
1898	315,088	787,720	1922	5,990,911	24,351,913
1899	309,600	774,000	1923	6,854,397	28,018,303
1900	311,450	778,625	1924	5,189,729	18,884,318
1901	340,275	850,687	1925	5,869,031	20,021,484
1902	402,819	960,601	1926	6,503,705	20,886,103
1903	495,893	1,117,541	1927	6,934,162	21,982,058
1904	661,732	1,404,524	1928	7,336,330	23,532,414
1905	931,917	1,993,915	1929	7,150,693	22,928,182
1906	1,246,360	2,614,762	1930	5,755,911	19,379,000
1907	1,591,579	3,836,286			
1908	1,685,661	4,127,311	Sub-totals	121,443,468	\$397,347,676

(Under provincial control)

Calendar Year	Tonnage	Valuation	1937	5,551,682	14,434,970
1931	4,564,290	\$ 13,415,745	1938	5,230,025	13,702,983
1932	4,870,030	13,441,193	1939	5,518,105	14,454,328
1933	4,714,784	12,197,339	1940	6,205,088	16,334,323
1934	4,748,848	12,440,617			
1935	5,462,973	13,946,338	Sub-totals	52,562,200	\$139,087,840
1936	5,696,375	14,720,004			

TOTALS

Increases this year in comparison with last

NOTE:—Prior to 1919 production quantities and values shown in this statement refer to sales and colliery consumption. From 1919 onward the figures given represent total output of mines.

From 1886 to October 1st, 1930 Alberta's coal mines were operated under the supervision of the Dominion Government. On the latter date supervision was transferred to the Alberta Government. As only the last three months of 1930 were under provincial control, this calendar year is shown under the federal total.

Increases, as will be noted in the statements which follow, appear also in the production of coke, briquettes and electrical power purchased for operation of Alberta coal-mines.

Disposition of Alberta Coal in 1940.—Coal sold for consumption in Alberta totalled 1,311,644 tons; sold for consumption in other provinces of Canada, 1,745,135 tons; sold to the United States, 35,354 tons; sold to railway companies, 2,720,793 tons; used in making briquettes, 62,376 tons; used in making coke, 105,926 tons; used under colliery boilers, 132,285 tons; used by colliery railways, 7,489 tons; put to stock, 50,148 tons and put to waste, 89,638 tons. These tonnages include coal lifted from stock and waste heaps, a figure which is not included in the yearly production total already given.

PRODUCTION OF COKE AND BRIQUETTES

Calendar Year	Coke (Tons)	Briquettes (Tons)
1930 .....	.....	24,111
1931 .....	.....	15,102
1932	2,183	13,582
1933	49,279	16,104
1934	59,703	15,906
1935	63,428	18,812
1936	65,239	21,015
1937	65,967	27,044
1938	68,692	39,239
1939	68,913	46,510
1940	70,753	66,127
TOTALS	514,157	303,552
Increases this year in comparison with last	1,840	19,617

Disposition of Electrical Power for Alberta Coal-mines in 1940.—Purchased electrical power used by Alberta coal-mines during the calendar year 1939 totalled 31,660,119 k.w.hrs.

ELECTRICAL POWER USED FOR OPERATION OF ALBERTA COAL-MINES

Calendar Year	K.w.hrs.
1930	25,003,606
1931	16,918,625
1932	14,875,890
1933	17,611,959
1934	19,447,621
1935	23,111,373
1936	24,912,243
1937	25,483,749
1938	24,611,920
1939	27,575,926
1940	31,660,119
TOTAL	251,213,031
Increase this year in comparison with last	4,084,193

SHALE AND CLAY MINED

During the calendar year 1940 five shale pits were in operation. Production from same totalled 35,614 tons of shale and clay from which 9,885,326 bricks and 5,712 tons of hollow tile were made.

Calendar Year	Shale Mined (Tons)	Bricks Manufactured (Number)	Tiles Manufactured (Tons)
1930	67,517	22,007,045	.....
1931	23,855	7,091,080	2,825
1932	8,446	3,444,010	182
1933	3,234	1,221,060	.....
1934	13,561	4,398,032	1,171
1935	20,258	7,349,300	.....
1936	24,588	8,963,384	.....
1937	27,144	9,946,794	252
1938	19,929	7,609,314	1,640
1939	27,236	8,194,685	2,649
1940	35,614	9,885,326	5,712
TOTALS	271,382	90,110,030	14,431
Increases this year in comparison with last	8,378	1,690,641	3,063

Mines Branch Annual Report.—Statistical information covering Alberta's coal-mining activities and production of shale and clay mined for the calendar year 1940 is given in complete detail in the published Annual Report of the Mines Branch, Department of Lands and Mines, for this period which appears as a separate publication to this Report.

TECHNICAL DIVISION

Issue of Notifications (Land Patents).—The following comparative statement shows the number of notifications and acreage covered thereby for the fiscal years from 1930-31 to 1940-41, inclusive:—

NOTIFICATIONS ISSUED

Fiscal Year	Number of Notifications	Area, Acres
1930-31	23	3,019.710
1931-32	784	111,424.478
1932-33	1,260	178,887.233
1933-34	1,106	165,224.553
1934-35	2,006	324,611.398
1935-36	2,965	433,529.126
1936-37	2,231	325,615.379
1937-38	2,266	382,382.437
1938-39	2,874	517,435.896
1939-40	2,097	301,431.972
1940-41	2,058	295,649.119
TOTALS	19,670	3,039,211.301
Decreases this year in comparison with last	39	5,782.853

Special Areas Maps accompanying Technical Division's Report.—In addition to the usual chart showing area of lands patented from October 1st, 1930 to the close of the year under review, 4 maps appear in the Technical Division's section this year which deal with the Special Areas, and which show unpatented Crown lands and titles vested in the Crown in these districts.

Details surrounding the Special Areas, indicating problems as they exist and work done in connection with same, are given.

New Surveys.—The customary report dealing with new surveys is submitted in detail.

New Maps.—New maps published this year include one dealing with Alberta's coal areas. As a result of descriptions outlining geological formations, supplied by Dr. J. A. Allan, Department of Geology, University of Alberta, a new coal map was drafted by the Division. Three thousand copies of same, showing the different coal areas in colours, were printed, and a supply was forwarded to Mr. E. S. Clarry, Alberta Trade Commissioner at Toronto, by the Department of Trade and Industry. Scale of the map was twenty miles to the inch.

Another new map, in connection with which satisfactory progress was made, dealt with an up-to-date map of the province. The scale is sixteen miles to the inch. The new map shows railways, highways, national parks, forest and Indian reserves and many other features.

Soil.—Details covering a soil survey conducted in the province are given at some length. Classes and types of land areas are given, together with a table specifying arable, non-arable and potentially arable lands.

Preservation of records on films.—The problem of storing the large volume of closed files has been largely solved by an amendment to Chapter 75 of the Department of Lands and Mines Act, which was assented to on March 14th, 1941.

By this amendment it is now possible to take photographs of documents of every variety which may relate to transactions concluded for a period of over one year. Points of information relative to this innovation are discussed.

Maps and Plans.—Demands for maps and plans, due largely to Army and Air Force requirements, were greatly increased during the year.

STAFF

To the staff of this Department, during the year now reviewed, I can only repeat my remarks and my appreciation as stated at the close of my Report last year.

With the growing seriousness of the world situation today, I would like to emphasize them once again. The privilege of wearing His Majesty's uniform at this time is denied to many of us. Considerations of stringent requirements of active service medical boards, physical disabilities or age frequently bar the way.

For all of us, however, of either sex and of any age, there is a definite war job to be done. Out of uniform the service given is less glamorous and will probably pass unheralded. It will play, however, an important and vital part in reaching victory, the present sole objective of the world's free peoples. It is a part that must now be played, that is being played, by the opposers of tyranny in every country on earth.

The nature of such service is of necessity varied. So many jobs may appear to be inconsequential, but which are, nevertheless, important and essential cogs in the wheel of that great machine which now so grimly and so ceaselessly is moving towards its goal.

Here in this Department, if we cannot serve elsewhere, is a definite war job to be done. The tools of war go in vast quantities from this province. They must be efficiently turned out, despite the difficulties presented by experienced personnel leaving continually to engage in work closer to the scene of action.

There is also the great question of rehabilitation. The question of the coming peace—and winning that peace. The question of preparing here in Alberta a new prosperity for the returning thousands, and for that great unseen army in ravaged war lands who will look to us for refuge.

These are great and grave questions which must now be seriously considered by the favoured lands untouched by war.

The staff of this Department by its loyalty and endeavour can enter this picture, can carry a great responsibility and can do invaluable work. Once again I would like to express to them my very real appreciation for the way in which they have met and overcome the many departmental problems which the present period of world crisis has presented.

Individual detailed reports from the various Divisions of the Department follow.

Your obedient servant,

J. HARVIE,

Deputy Minister.

Edmonton, January 16th, 1942.

Provincial and School Lands Administration

REPORT OF THE DIRECTOR OF LANDS, V. A. WOOD

PROVINCIAL LANDS

During the fiscal year to which this report appertains, the Federal Government's crop curtailment arrangement and quota system affected materially the transactions of this Department. Many settlers took advantage of the arrangement and summer-fallowed their land. The Department also co-operated by discontinuing to accept applications for cultivation leases except in cases where at least one-third of the total area applied for had already been cultivated.

Due to the quota system, collections at the commencement of the season were slow, but improved as storage space became available and quotas were raised. This system, however, entailed a great deal more work collecting departmental crop shares.

New cultivation lease regulations were established fixing the area to be cultivated yearly as follows:

	Break (Acres)	Crop (Acres)
First year	5	.....
Second year	10	5
Third year	10	15
Fourth year	15	25
Fifth year	15	40
Each succeeding year for the duration of the lease .....	...	55

Cultivation lessees who will benefit by the new regulations are being notified and given the privilege of having their leases amended.

Crop shares to be paid in accordance with the various cultivation leases issued have been permanently fixed as follows:

Where original crop share was $\frac{1}{3}$, reduced crop share will be $\frac{1}{4}$
 Where original crop share was $\frac{1}{4}$, reduced crop share will be $\frac{1}{5}$
 Where original crop share was $\frac{1}{5}$, reduced crop share will be $\frac{1}{6}$

Military protection is granted in cases where a lessee was the holder of a lease prior to his enrollment for active service in defence of the Empire against a foreign power.

Land agencies were maintained at Calgary, Lethbridge and Peace River, the Lethbridge Land Agency being closed on the 31st of March, 1941, and the records transferred to the Calgary Agency. A sub-agency has been maintained at Lethbridge, however, with the former agent appointed as sub-agent.

By Order in Council, No. 488/40, dated the 23rd of April, 1940, large areas of land north and east of Edmonton were added to the area already available under the agricultural lease regulations.

During the fiscal year under review 281 applications were received under the new agricultural lease regulations and 224 agricultural leases were issued. This is considered highly satisfactory owing to the fact that no lease can be issued unless the soil investigator's report shows 50 per cent of the area fit for agricultural purposes.

In connection with the field inspection staff, the following is a summary of the work performed:

Requests for inspections outstanding at 1st April, 1940	1,481
Reports called for from 1st April, 1940 to 31st March, 1941	3,243
Reports received from 1st April, 1940 to 31st March, 1941	3,920
Reports outstanding at 31st March, 1941	804

This work was carried on by six field inspectors.

The total revenue received for the fiscal year in connection with the administration of provincial lands amounted to \$125,544.35, as compared with \$148,286.74 during the previous year, showing a reduction of \$22,742.39.

Details pertaining to this revenue will be found in the Accounting Division's section of this Report.

A complete filing system is maintained through which all letters directed to the Department were received and from which all outgoing letters were despatched. During this fiscal year 132,717 letters were received and 198,985 letters were despatched. There were 4,747 new files made, bringing the total number of files in use up to 114,887.

The number of stencils cut during the present year were 332 from which 141,297 pages were mimeographed.

Translations for this and other Departments numbered 287.

A total number of 996 hay permits was issued under authority of which 7,694 tons of hay were cut. A total of 10 hay seizures was made during the fiscal year under authority of which 96 tons of hay were cut.

The following statement shows additional transactions completed during the year:

Entries cancelled	1,119
Applications for patent received	1,686
Notifications for title issued	1,831
Cultivation permits issued	28
Grazing permits issued	1,094
Hay permits issued	996
Agricultural leases issued	224
Accrued area leases issued	51
Cultivation and grazing leases issued	116
Renewal cultivation and grazing leases issued	89
Cultivation and grazing leases cancelled	116
Townsite leases issued	1
Surface leases issued	1
Miscellaneous leases issued	29
Provincial land sales granted	85
Licences of occupation issued	10
Fur farming leases issued	5
Assignments registered	89

The following statement gives particulars concerning transactions in connection with long term grazing leases during the fiscal year:

	Number	Acreage
Leases in existence April 1st, 1940	1,415	1,856,216.94
Leases issued	111	299,179.21
Leases cancelled	82	159,360.18
Leases reinstated	7	9,895.00
Leases transferred to Special Areas	18	8,718.48
Area added to existing leases .....	...	4,408.85
Area withdrawn from existing leases .....	...	5,586.49

On the 31st of March, 1941, there were in existence 1,433 long term leases, comprising an area of 1,996,034.85 acres, summarized as follows:

	Number	Area
Dominion leases	579	829,524.19
Provincial leases	854	1,166,510.66

SCHOOL LANDS

The report for the fiscal year ending the 31st of March, 1941, in connection with the administration of school lands, is herewith submitted.

The Board appointed, pursuant to the provisions of Section 44 of The Provincial Lands Act to deal with the matter of compromises or adjustments in connection with outstanding school lands sales, continued to function throughout the year under review, and 106 cases were dealt with in connection with which reductions were made as follows:

Principal	\$257,527.87
Interest	297,794.85
TOTAL	\$555,322.72

This makes a grand total of 2,359 cases dealt with to the end of the fiscal year, resulting in total reductions being granted in the sum of \$2,630,824.30 on account of principal and \$2,150,507.55 on account of interest.

All of the Board's recommendations were accepted by the Government and the reductions recommended in each case were made effective by various orders in council passed during the year.

There were no public auction sales of school lands held during the fiscal year.

The total net revenue collected for the fiscal year amounted to \$414,584.20 as compared with \$455,291.32 for the previous year, being a decrease of \$40,707.12.

The decrease in revenue is mainly accounted for by reason of heavy storms during the latter part of the season which resulted in a considerable amount of grain being threshed "tough." Some crops were not threshed until after the new year. The grain quota imposed by the Federal Government also accounted for the slow delivery of grain. Collections for the Department's share of the 1940 crop, however, were fairly good.

Of the total revenue collected, the sum of \$76,806.39 was paid on account of principal moneys in connection with school lands sales and was transferred to the credit of the School Endowment Fund. The balance of the moneys, namely \$337,777.81, comprises payments made on account of interest, rentals, royalties, etc., and other items of a more or less similar nature.

During the fiscal year 544 cultivation leases were issued comprising an area of 105,038.01 acres, an increase of 36 leases over the previous year.

A total of 296 permits were issued authorizing the cutting of 2,949 tons of hay under authority of which 2,589 tons were cut. A total of 6 hay seizures were made during the fiscal year under authority of which 94 tons of hay were cut.

In connection with timber operations, 13 timber berths were disposed of by sale and from these berths and other berths in operation the following material was manufactured:

12,269,585 F.B.M. of lumber
29,918 railway ties

In addition to the above, 343 timber permits were issued, authorizing the cutting of timber on school lands, and under authority of these permits the following material was cut:

	Authorized	Cut
Lineal feet	28,968	29,754
F.B.M. of lumber	3,258,098	1,946,359
Fence posts	6,824	3,334
Cordwood	1,500	1,259
Shingles	16,000	6,000
Railway ties	17,410	23,421

The total amount of lumber manufactured from school lands is as follows:

	F.B.M. of lumber
Under authority of timber berths	12,269,585
Under authority of permits	1,946,359
Registered under seizures	133,795
TOTAL.....	14,349,739

In addition to the usual routine business the following transactions were completed:

Assignments registered	80
Cultivation and grazing leases issued	544
Cultivation and grazing leases cancelled	441
Renewal cultivation and grazing leases issued	195
Grazing permits issued	1,821
Hay permits issued	296
Timber permits issued	343
Timber seizures	31
Hay seizures	6
Cultivation permits	25

Forestry

REPORT OF THE DIRECTOR OF FORESTRY, T. F. BLEFGEN

The fiscal year 1940-41 shows a very satisfactory state of affairs with respect to the extent of forestry departmental revenue.

The anticipated increased demand for forest products outlined in last year's Annual Report materialized even beyond expectations and the sale of forest products has been the largest since the transfer of the natural resources to the province in 1930. In fact, if records were available they would show the year under review to be an all-time high in lumber production.

The requirements for lumber for military camps, equipment crates and food and munition containers, as well as for increased housing facilities, necessitated by the larger number now employed, will perhaps be still greater during the next fiscal year than for 1940-41.

Although the demand for lumber has been brisk, and it is fully expected that a large volume will be required, at least during the coming year, it is not anticipated that the present high output will be continued after 1941.

This forecast decrease is based on the fact that Britain has been awarding very few orders during the past six months, and that a great deal of lumber purchased for overseas shipment remains on the eastern seaport, and has only recently started to move.

Furthermore, some stocks purchased during the past winter by eastern manufacturers still remain in this province, owing to the lack of storage space at manufacturing plants in the east.

The Timber Controller for the Dominion has prevented a repetition of conditions which prevailed during the war years of 1914-18 when lumber prices sky-rocketed. During the present war prices have been rigidly controlled.

In order to continue the production of lumber on anything like the present scale, more care must be exercised when logging merchantable stands and in preserving and protecting any stands that have not yet reached merchantable size.

From time to time, in previous annual reports and requests for appropriations, the necessity of purchasing new equipment to replace a great deal of that which has become worn out or obsolete has been pointed out. Very little money for such purchases, however, has been provided.

Purchases of equipment have failed, therefore, to replace what it has been found necessary to condemn as being worn out and of no further use. This is a serious condition and will, in the not distant future, require large expenditures for new purchases if firefighting equipment in the province is to come anywhere near standard requirements.

Direct benefits from the extension of the look-out system further north and the installation of two-way radio communication between the look-outs and the rangers has speeded up the transmission of information to the rangers of fires in their districts, and has assisted greatly in cutting suppression costs, as well as being the means of reducing losses of timber.

Detection of fires and the transmission of information with regard to locations, although very useful, do not complete the requirements as it is necessary to get men and equipment on most fires and do a great deal of work in order to prevent their spread in or to valuable timber.

The areas required to be supervised by rangers, especially in the Northern Alberta Forest District, are, in most cases, too large for efficient fire protection, and until such time as money is available for the hiring of a greater number of trained personnel, there is no hope of greatly reducing timber losses and suppression costs.

The forest nursery operations at the Oliver Mental Institute and at Fort Saskatchewan continue to be very satisfactory. The same degree of success has, however, not been attained at the Lethbridge Gaol where the soil is different and irrigation is required.

A number of exotic trees has been introduced by planting of seed brought into the province from different points in the Dominion and the United States, some of which have been found satisfactory and these are now being planted more extensively.

A small number of acorns from Bur oak (*quercus macrocarpa*) trees, growing at Oliver from seed obtained in Manitoba, was gathered last fall and as these showed good germination, they were planted in the fall of 1940, and it is hoped that it will be possible to report the reproduction of oak for the first time from acorns produced in this province.



Timber stands in Simonette River watershed

FOREST PROTECTION

Protection deficiencies, stressed in previous annual reports, particularly in the Northern Alberta Forest District, remain the same in spite of the mounting hazard from increased settlement. Until remedial measures are taken to decrease the size of the ranger districts and provide patrols along the arterial river routes of travel, no improvement should be looked for in protection accomplishment.

Fire Season.—In the winter of 1939-40 the snow-fall along the east slope of the Rocky Mountains was considerably lighter than average. Numerous falls of wet snow occurred, however, during March and early in April, as a result of which the forest reserves were not bare of snow until April was well advanced.

The month of May was quite dry, and June was unusual due to the fact that, instead of the customary heavy rains experienced at that season of the year, only scattered showers occurred. During July, however, a number of heavy rains and frequent scattered showers held the usual late July and early August fire hazard in the mountains slightly below normal.

From early in September until the middle of November, when the fire season ended, frequent light showers and snow flurries kept the ground cover moist, and fire danger at a minimum.

In the western part of the Northern Alberta Forest District a normal snow-fall was evidenced during the winter of 1939-40 with the heaviest falls occurring in February and March.

The spring break-up was later than usual and did not occur until the middle of April.

As is usually the case in the late spring break-ups, the winter accumulation of snow melts very quickly, causing rapid run-off and floods in some sections, the ground not having the same opportunity of absorbing the moisture as when earlier and more gradual break-ups occur.

New green growth came quickly, however, and assisted greatly in holding the spring hazard below normal.

General rains occurred during the last week in May in this section of the District and a normal fire season occurred.

The north-eastern part of the province was less fortunate, where a winter of light snow-fall was followed by a hot, dry weather with exceptionally high winds.

This weather continued practically all summer with no relief, resulting in a very severe fire hazard, which continued until late in the fall.

When winter set in about the middle of November, some of the creeks which usually flow all summer were entirely dry, and muskegs that are normally floating bogs dried to a depth of from three to four feet.

Unless exceptionally heavy snows are experienced during the coming winter, a continuation of the extreme fire hazard can be anticipated at least during the early spring of 1941.



Head of the Simonette River

Fire Prevention.—The prevention of fires is of primary importance in that the degree of its success determines more or less the requirements of fire suppression.

Prevention, actively, is necessarily a matter of administration, having to do with fires originating through human agencies in one form or another. Fires from natural causes are of a lesser frequency, and their start is not readily subject to preventive control. Some useful preventive measures are from time to time obtained through newspaper articles and radio broadcasts, warning of the

hazardous conditions of the forests and the proper precautions necessary to be taken while in forest areas. The most efficient form of publicity, however, is found to be by direct contact between the Forestry field staff and persons using the forest areas for recreation and commercial purposes.

This contact is brought about in the forest reserves by the requirements that all persons travelling in these areas must obtain a free travel permit. The issuance of these permits furnishes the ranger with excellent opportunities of emphasizing the needs and methods of fire prevention. In cases of the ranger's absence, provision is made for registration on blanks, reporting the visitor's proposed sojourn.

While personal contact is not made by the latter procedure, the visitor's approximate whereabouts is known to the ranger, and tends to produce greater care with fire than would otherwise be the case.

With a meagre staff and large districts, this contact is not available in the Northern Alberta Forest District, but the system having proven so successful in the forest reserves, some such form of contact in the north should be under consideration in the immediate future.

Numerous fires have been caused in the northern districts by trappers burning the grass around lakes and sloughs in order to more readily find the muskrat runs, and by their winter camp fires when not properly extinguished.

Both of these sources of fire can be greatly decreased by the institution of registered traplines. This has been proven by actual experience.

BURNING PERMITS ISSUED, PROVINCE OF ALBERTA, 1940

<i>By the Forest Services</i>			
Cypress Hills			
Crownsnest-Bow River	29		
Clearwater	272		
Brazeau-Athabaska	23		
By the staff of the Forest Reserves		324	
Western	439		
McMurray	25		
Slave Lake	312		
Peace River	371		
By the staff of the Northern Alberta Forest District		1,147	
<i>By Outside Agencies:</i>			
Honorary Fire Guardians	2,079		
Fire Guardians in Municipal Districts	549		
Royal Canadian Mounted Police	744		
Sub-total		3,372	
TOTAL			4,843

PROSECUTIONS AND CONVICTIONS, PRAIRIE FIRES ACT, 1940

	Instituted by Forest Service	Instituted by other Agencies	Totals
Number of prosecutions	23	50	73
Number of convictions	22	46	68

Fire Detection.—Mention has been made in previous reports of the need for more adequate provision for fire detection throughout the Northern Alberta Forest District. In line with this policy the establishing of a system of look-outs will afford visual coverage of the more important timber areas and the addition of units is proceeding as fast as available funds will permit. The Adams Creek look-out, located on the east half of section 31, township 54, range 4, west of the 6th meridian, at an elevation of 7,200 feet was erected and radio was equipped to form another unit of the gradually extending system.

Fire Suppression.—In the north-eastern part of the province, the dry year, with light snow-fall during the three winters immediately preceding and hot dry winds in the early spring, the total absence of moisture in the form of rain brought

about a very hazardous fire condition in this portion of the Northern Alberta Forest District, and it was in this area that the largest and most destructive fires took place.

During the fire season of 1940, 313 fires were dealt with, 155 being in the large or C. and D. classes, the remainder being under ten acres in extent.

The total losses are estimated at \$954,031.02 and suppression costs, including ranger's services actually expended on fires, is \$67,231.48.

While the season in the north-eastern part of the province was very long and severe, extending from early spring until the middle of November, a normal season was experienced in other parts of the province.

It is again noteworthy that on the east slope of the Rocky Mountains, and especially in the forest reserves including the Cypress Hills, the fire occurrence and loss were held to a minimum, largely through the vigilance and energy of the staff concerned.

While commending the staff for their tireless efforts and good records, the large and increasing number of campers and tourists, who each year make greater use of the forest reserves for camping and recreational purposes, are due for a great deal of credit regarding their splendid co-operation and for their care with fire while in the forest areas.

COMPARISON OF FIRE LOSSES BY PERCENTAGE

Causes	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
Campers	23.7	52.8	38.9	35.4	42.3	38.3	35.9	27.4	28.8	26.0
Smokers	3.2	5.3	13.5	11.7	9.3	9.7	4.5	3.6	5.0	4.8
Settlers	21.9	17.1	17.4	17.9	8.2	11.7	20.7	14.6	14.8	12.2
Railways	6.6	4.5	2.8	5.0	10.3	4.0	9.3	4.2	4.6	6.7
Lightning .....	.6	2.6	5.2	7.5	1.0	14.1	2.2	2.3	4.0	2.8
Industrial operations	1.9	1.1	1.7	4.2	1.0	3.2	.8	1.4	1.4	.6
Incendiary	15.1	8.2	11.8	11.2	22.7	10.1	13.5	14.6	9.8	8.9
Public works	1.4	.5	1.4	1.3	1.0	.4	.3	.8	.6	....
Unclassified	1.5	1.6	....	2.5	2.1	2.0	7.2	9.0	13.4	16.9
Unknown	24.1	6.3	7.3	3.3	2.1	6.5	5.6	22.1	17.6	21.1

RAILWAY FIRE LOSSES, CALENDAR YEAR 1940

This statement deals only with fires burning on forested territory under the supervision of the Alberta Forest Service, and which started within 300 feet of the centre line of the railway right of way.

Causes and number of fires:

Railway causes—Locomotives	16
Employees	4
Sub-total	20
Other causes—Campers and travellers	3
Settlers	7
Unknown	6
Unclassified	1
Sub-total	17
TOTAL	37

Number of acres burned:

Slashing or old burn	44
Timber land	71,010
Young growth	14,310
Non-forested	85,364
TOTAL	85,364

Loss:

Timber	\$ 131.00
Young growth	14,445.50
Forest products .....	....
Other property .....	....
TOTAL	\$14,576.50

ANNUAL STATEMENT OF FIRES BY CAUSES, MONTHLY DISTRIBUTION, ETC., WITHIN AND OUTSIDE FOREST RESERVES, ALBERTA—CALENDAR YEAR, 1940

Cause	Number					P.C.	Damage	Area, Acres	Monthly Distribution												Fires Inside Provincial Forests		Fires Outside Provincial Forests			
	A / B / C / D / Tot.								January	February	March	April	May	June	July	August	September	October	November	December	No.	Area, Acres	No.	Area, Acres		
Camp-fires	23	25	20	14	82	26.0	\$ 138,269.50	89,584					5	9	5	8	15	25	11	4		3	2	79	89,582	
Smokers	5	6	12	2	13	4.8	27,013.27	12,905	1					1	3	1	3	6							12	10,875 1/2
Settlers	5	13	16	4	38	12.2	4,253.75	7,035 1/2						13			3	14	6						38	7,035 1/2
Railways	6	10	3	2	21	6.7	177,616.25	85,185 1/2						4	1	11	1	5	1						21	85,185 1/2
Lightning	2	1	5	1	9	2.8	8,708.75	3,426							3										4	2,950
Industrial																										
Operations	1	1			2	.6	550	1								1				1					1	
Incendary	8	4	10	6	28	8.9	37,379.25	23,915						8			4	13	3						10	401
Public Works																2	3	11	14	2					1	
Unclassified	7	12	16	18	53	16.9	325,857.00	159,706 1/2	2	1			3	15	2	3	11	14	2						52	159,706 1/2
Unknown	11	18	17	19	65	21.1	234,923.75	92,485 1/2						19	9	3	11	13	9	1					7	20
TOTALS	68	90	89	66	313	100.0	\$ 954,031.02	474,244 1/4	2	2			8	69	24	28	53	90	32	5		30	2,929 1/2	283	471,314 3/4	
Per cent	21.7	28.8	28.4	21.1					.6	.6			2.7	22.1	7.5	8.9	16.9	28.8	10.3	1.6		9.6			90.4	

ANNUAL SUMMARY OF FOREST FIRE LOSSES, ALBERTA—CALENDAR YEAR, 1940

FIRE CAUSES	NUMBER OF FIRES					LANDS AFFECTED								LOSS										SUPPRESSION COSTS			Burning Permits Issued																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
						Ownership		AREA	CONDITION				TIMBER (MERCHANTABLE AND CUT-OVER)					Loss of Timber	Loss of Young Growth	Loss of Other Property	Total Loss	Ranger Service	Other Expenditures	Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	Public, Acres	Private, Acres	Total, Acres	Merchantable Timber, Acres	Cut-over Timber, Acres	Young Growth, Acres	Not Forested, Acres		SALVABLE			UNSAVABLE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
								A	B	C	D	Total	Saw-timber, M.ft.B.M.	Other, Cords	Depreciation	Saw-timber, M.ft.B.M.	Other, Cords	Loss																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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*N.A.F.D.—Northern Alberta Forest District

SUMMARY SHOWING TOTAL NUMBER OF FIRES AND BURNT OVER AREA
FROM 1931 TO 1940 INCLUSIVE

Year	Total No. of Fires	Total Acreage	Not Forested	Net Acreage
1931	622	604,876.12	209,064.75	395,811.37
1932	379	136,117.89	68,253.42	67,864.47
1933	288	93,765	30,955.88	62,809.12
1934	240	58,870	21,656.5	37,213.5
1935	97	6,319.75	3,267.75	3,052
1936	248	204,454	46,534	157,920
1937	375	835,259	155,069.5	680,189.5
1938	521	1,758,345.5	842,384	915,961.5
1939	499	429,139.25	159,774.5	269,364.75
1940	313	474,244.25	108,597.5	365,646.75
TOTALS	3,582	4,601,390.76	1,645,557.80	2,955,832.96



Looking north-west from the Blue Hill Lookout in Rocky Mountains Forest Reserve

Radio.—Radio communication began as usual with the opening of look-out stations, all of which were manned by May 8th.

During the preceding winter all portable equipment in use during the previous fire season had been completely serviced, and the Brazeau look-out installation was completed on the 23rd of May. The tower and necessary buildings had been completed the previous autumn.

Additional receivers, developed and designed by Forest Service personnel, were supplied to all look-out towers. These receivers were intended for stand by use in order that the look-out towers could, if necessary, be called at any time during the daylight hours. The receivers are small, self-contained, dry battery Superhetrodynes, using the new 1.4 volt type tube, which insures extremely economical operation. They are, in addition, equipped with a signalling device to call the operator to his post if he happens to be absent at the time the call is made for his station.

Land was secured from the City of Edmonton and a building designed to house the radio equipment for headquarters station in Edmonton. Necessary construction and test equipment was completed and the headquarters transmitters and receivers were installed. This building is located on the outskirts of the City of Edmonton to avoid, as far as possible, high interference levels.

Additional portable equipment was purchased at the beginning of the season and distributed in the Lesser Slave area of the Northern Alberta Fireranging District, and headquarters at Slave Lake was equipped with a radio transmitter receiver and power plant, similar to those already installed at look-out stations.

By the addition of this portable equipment, 37 portable radio sets were in operation during the season, as compared with 17 the previous year.

The personnel in this area was instructed in the use of these sets at the start of the season and appeared to have very little difficulty in handling them to the best advantage.

The addition and distribution of the portable telephones greatly facilitates rapid communication in the area, as it enables the Chief Ranger to contact the men under his supervision at stated intervals when desired.

Tentative arrangements were also made for proposed sites for headquarters stations to be located at Calgary, Grande Prairie and Lethbridge. These sites were all surveyed for noise level and general reception conditions by the Radio Superintendent during the late fall and early winter months, and all information obtained was placed on file for future reference.

In view of the shortage of trained radio operators due to war conditions and the enlistments by young men in the armed forces, it was decided to attempt to train girls to be utilized as headquarters stations operators. Lecture notes were prepared and lectures given twice weekly by the radio personnel to some fifty young ladies from different departments of the Government who had evinced a desire to learn radio theory and operating. It is regretted that the results obtained were not all that was expected. As the shortage of male operators becomes more and more apparent it is probable that further efforts along these lines will have to be made in order that the operation staff may be maintained.

All portable equipment was overhauled following a pre-determined routine which analyzes all circuits comprising the equipment, and records are kept of each piece of equipment, covering repairs made, circuit conditions, etc. In making these tests, utilizing all equipment which is owned by or is available to the Department, each set is put through a series of tests, the results of which must correspond to pre-determined standards, and if not, rebuilding or readjusting of the entire set is made until the desired results are obtained.

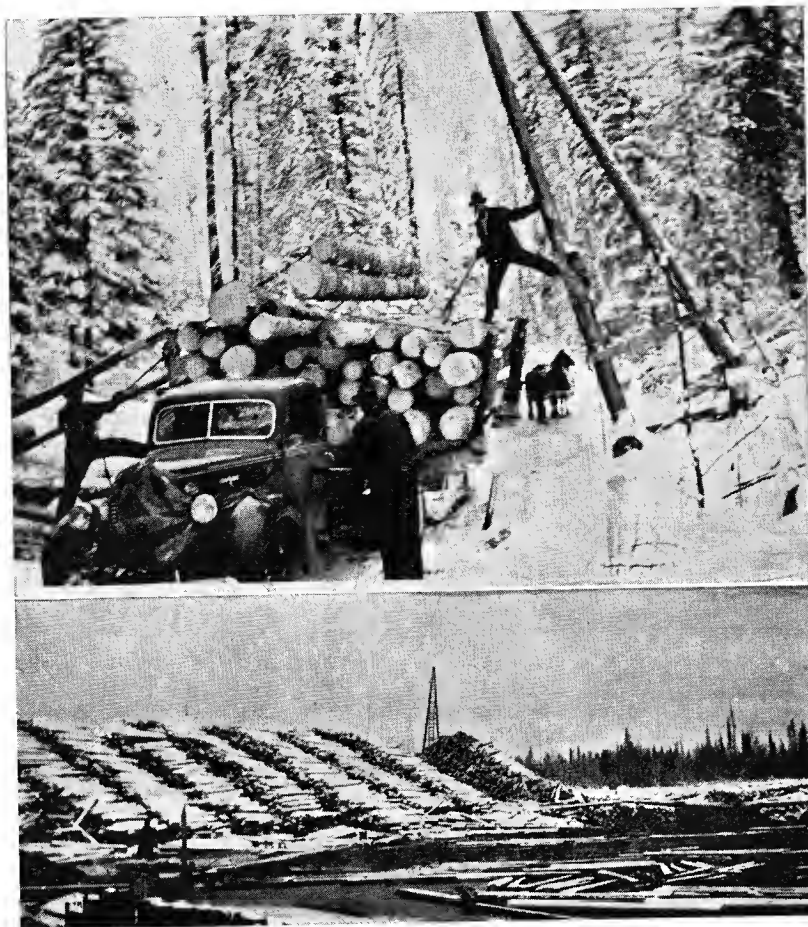
In spite of the fact that over forty per cent of the radio personnel were new to the Forest Service at the start of the fire season, the equipment functioned in an extremely satisfactory manner, and maintenance and repair costs were low.

Personnel.—Owing to enlistments in His Majesty's forces, it was found necessary to make a number of changes in the Forestry staff as well as in the ranger personnel. Twenty-one members of the Forest Service have joined the different branches of His Majesty's armed forces and the loss of these men has necessitated a great many changes and replacements.

The work of the personnel of the Forest Service again calls for favourable comment, both in the field and in the office. The work has been done systematically, satisfactorily and as expeditiously as is humanly possible.

Fire-fighting Equipment.—The curtailment of the purchase of equipment until actual necessity at the time of large fires, eliminates the possibility of securing standardized material on a competitive basis, also the possibility of distribution well in advance of the actual requirements. This equipment is not perishable and, if not actually needed during the year it is purchased, it can be stored and kept in readiness for immediate use when required.

This is carried out by practically all protective services both in Canada and in the United States, and the adoption of such a policy in this Department would assure the securing of standard equipment at competitive prices, and eliminate the purchasing of only what is available when the emergency arises.



Upper picture.—Loading logs on truck-sleigh. Half the weight rests on the truck and half on the sleigh
Lower picture.—Some of the same logs at the saw-mill

FOREST ADMINISTRATION

Provincial Forest Reserves.—This section of the report deals with timber disposal from the forest reserves.

In comparison with preceding years the statement with respect to this item shows a substantial increase. The major influences affecting this increase were the general requirements brought about by the war for large quantities of lumber and also the additional quantities of mine props required in different mines, especially those producing steam coal. Greater quantities of this fuel were required by the railways in moving the bumper crop of 1940, as well as in the transport of the large amount of material, provisions, etc., moved to the Atlantic seaport.

TIMBER CUT UNDER PERMIT, ALBERTA FOREST RESERVES—FISCAL YEAR 1940-41

	Cypress Hills	Crownest- Bow River	Clearwater	Brazeau- Athabaska	Totals
Number of permits	245	224	28	28	525
Fuelwood, dry (cords)	690	2,663	259	99	3,711
Fuelwood, green (cords)		258	80		338
Mine timber, dry (lineal feet)		230,500	4,974		235,474
Mine timber, green (lineal feet)			496		496
Lagging (Cords)			9		9
Lagging (lineal feet)		37,400			37,400
Fence posts	13,970	7,593	600	200	22,363
Sawlogs (F.B.M.)		529,600			529,600
Round timber (pieces)	6,846	10,762	5,682	100	23,390
Round timber (lineal feet)		27,077	6,259	6,610	39,946
Fence droppers (pieces)		2,320			2,320
Fence droppers (cords)					
Telephone poles (pieces)				50	50
Telephone poles (lineal feet)		1,500		3,000	4,500
Railway ties (pieces)				1,900	1,900
Tram ties (lineal feet)				12,500	12,500
Fence droppers (lineal feet)		600			600
Mine ties (lineal feet)			787		787
Christmas trees		11			11

TIMBER OPERATIONS ON FOREST RESERVE TIMBER SALES—FISCAL YEAR 1940-41

	Crownest- Bow River	Clearwater	Brazeau- Athabaska	Totals
Number of active operations	22	2	12	36
Lumber, feet, board measure	7,722,307	114,543	669,861	8,506,711
Railway ties		23,211	43,434	66,645
Piling	5,379			5,379
Mine timber, lineal feet	497,909	758,411	917,728	2,174,048
Lagging, lineal feet	245,062	31,416	5,866	282,344
Telegraph and telephone poles, lineal feet	18,522			18,522
Building logs and culvert timber, lineal feet	5,016		3,000	8,016
Fence posts	271			271
Fuelwood, cords	221		84	305
Mine ties, number			3,570	3,570
Tramway ties, number			5,100	5,100
Switch ties			3,795	3,795

Provincial Lands.—The utilization of forest resources on all provincial lands under the administration of the Department reflected the increased demands to which previous reference has been made.

It is a pleasure to be able to report that, although the prices obtainable have not increased as they did during the years 1914-18, the prices set by the Timber Controller for the Dominion made possible a reasonable profit. It is also gratifying to note that the demand for dry seasoned lumber has been exceptionally heavy—in fact at the beginning of logging operations in the early winter of 1940, practically all stocks had been sold out and further orders had to be refused.

There were also increases in the production of mine timber and other forest products. The manufacture of railway ties, which constitutes the second most important product in the province, increased by 69.47 per cent over the previous year's figures, and contract prices were slightly increased by the railway companies to cover the higher labour charges and increased costs for provisions.

Provision was made by regulations to enable operators to secure larger areas of timber. This change in the regulations permits those so desiring to secure a larger area of timber, as well as a longer period of time to complete operations.

The new provision fills a long felt want because, in addition to providing a more continuous operation, it now permits the Department to dispose of larger areas, a factor which has not been possible since the transfer of the natural resources to provincial control.

The following table summarizes the timber business transacted at Head Office for the Edmonton Office and also the land agencies at Calgary, Lethbridge and Peace River.

STATEMENT OF TIMBER OPERATIONS FOR 1940-41 ON PROVINCIAL LANDS
IN THE EDMONTON DISTRICT AND IN THE CALGARY, PEACE RIVER AND LETHBRIDGE LAND AGENCIES

(a) OPERATIONS ON LICENCE TIMBER BERTHS:

	Edmonton District	Calgary Agency	Peace River Agency	Lethbridge Agency	Totals
Number of active operations	27	12			39
Lumber, feet, board measure	58,552,832	4,994,845			63,547,677
Railway ties	57,862	3,982			61,844
Mine timber, lineal feet	1,666,060	1,595,269			1,595,269
Lath	200	1,400			1,666,060
Fence posts	51	240			1,600
Fuelwood, cords					291

(b) OPERATIONS ON TIMBER PERMIT BERTHS:

Number of active operations	191	25			216
Lumber, feet, board measure	71,109,811	7,638,796			78,748,607
Railway ties	904,790	16,585			921,375
Piling, lineal feet	13,860				13,860
Mine timber, lineal feet		15,000			15,000
Lath	167,778	432,378			600,156
Lagging, lineal feet	1,971	73,000			76,971
Telegraph and telephone poles, lineal feet	28,554	18,547			18,547
Building logs and culvert timber, lineal feet	2,234				28,554
Fence rails	185				2,254
Fuelwood, cords		250			435
Shingles	160,000				160,000
Switch ties	294				294

(c) OPERATIONS UNDER SPECIAL TIMBER PERMITS:

(Sec. 68 of the Timber Regulations)

Number of active operations	234	41			275
Lumber, feet, board measure	7,068,484	1,027,752			8,096,236
Railway ties	242,030	13,241			255,271
Piling, lineal feet	8,060				8,060
Mine timber, lineal feet		4,000			4,000
Lagging, lineal feet		3,700			3,700
Telegraph and telephone poles, lineal feet	20,065	12,502			32,567
Building logs and culvert timber, lineal feet	3,654				3,654
Fence posts	25				25
Fuelwood, cords	272				272
Mine ties, number	972				972
Shingles	10,000				10,000
Lath		665,000			665,000

* (d) TIMBER PERMITS ISSUED AUTHORIZING THE CUTTING OF MATERIAL SHOWN HEREUNDER:

Number of permits issued	1,091	144			
Building logs, lineal feet	25,056	17,403	729	16	1,980
Mining timber, lineal feet	419,859	252,000	39,127		81,586
Telephone poles	86,225	7,500	22,500		671,856
Piling, lineal feet	5,726		5,268		116,225
Lumber, feet, board measure	7,124,370	185,973	4,792,386	5,000	11,044
Fence posts	72,785	20,730	101,213		12,107,729
Roof poles	47,244	1,350		370	195,100
Fence rails	216,995	17,442	436,665	100	136,402
Fuelwood, cords	3,303	1,520	300	134	671,852
Railway ties	12,670	1,680			7,250
Shingles	230,000				14,650
Shingle bolts, cords	170 1/3				284,000
Lath bolts	20		284		454 1/3

*The figures shown under this heading are the amounts authorized to be cut. The amounts actually cut under this heading are not available.



Upper picture.—Full length of tree hauled to saw-mill by caterpillar and "arch", showing method of cutting into log lengths at the mill

Lower picture.—The same log on the carriage at the portable saw-mill

GRAZING

Grazing on the Rocky Mountain forest during the year under review was excellent. Cattle, when they entered the reserves in the spring, were mostly in fair condition and due to an exceptionally favourable year for the growing and ripening of forage plants, most stock left the summer grazing areas beef fat.

In the Cypress Hills grazing conditions were also very good, and a high percentage of the stock left the range ready for market.

GRAZING STATEMENT—ALBERTA FOREST SERVICE, 1940-41

Forest	No. of Permits	No. of Horses	No. of Cattle	No. of Sheep
Cypress Hills	51	436	2,268	.....
Crowsnest-Bow River	273	2,038	21,376	3,904
Clearwater	30	361	.....	.....
Brazeau-Athabaska	81	359	187	50
TOTALS	435	3,194	23,831	3,954

COMPARATIVE STATEMENT, GRAZING—ALBERTA FOREST SERVICE

	1931	1932	1933	1934	1935	1936
Number of permits	456	606	493	517	533	497
Number of cattle	15,041	20,086	20,230	22,557	25,097	23,407
Number of horses	3,417	3,377	3,185	2,541	2,207	2,441
Number of sheep	4,379	7,465	6,705	3,078	4,114	5,443

	1937	1938	1939	1940	Totals	Average
Number of permits	529	437	482	435	4,985	498.5
Number of cattle	18,921	22,280	22,386	23,831	213,836	21,383.6
Number of horses	3,418	3,024	2,731	3,194	29,535	2,953.5
Number of sheep	3,174	4,791	6,883	3,954	49,986	4,998.6

IMPROVEMENTS

The period under review was very favourable generally in all parts of the province, with the exception of the north-eastern section, for the carrying out of improvement work, as fires did not greatly interfere with regular routine work.

Throughout the season existing improvements were maintained; trails and roads were kept open and lines of communication were maintained in working order.

IMPROVEMENT STATEMENT

NEW CONSTRUCTION PROJECTS:

Forest	Houses	Cabins	Sheds, etc.	Fences	Fields (break- ing in acres)	Water Supply Systems	Barns and Stables	Telephones (miles)	Corrals	Bridges	Look-out Towers	Trails (Miles)	Cabins	Fireguard Roads (Miles)	Tourist Stoves	Miscel- laneous
Cypress Hills	1	1	...	...	...	1	...	6	...	...	...	...	...	18	...	1
Crownest	7	3	2	...	...	...	1	...	...	...	...	3 1/2	2	...	...	1
Bow River	2	9	1	...	...	...	...	5 1/10	...	...	...	8	1	...	...	...
Clearwater	3	4	2	3	...	...	...	...	...	...	1	...	...	3	...	1
Brazeau	2	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Athabaska	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS	22	40	5	3	...	1	1	11 1/10	...	...	1	11 1/2	4	21	...	4

MAINTENANCE PROJECTS:

Forest	Houses	Cabins	Barns and Stables	Telephones (Miles)	Trails (Miles)	Roads (Miles)	Fences	Corrals	Water Supply Systems	Sheds, etc.	Look-out Towers and Cabins	Grounds	Hay Meadows & Pastures	Fertiles	Miscel- laneous
Cypress Hills	1	1	1	27	198 1/2	60	1	1	...	1	...	...	...	...	1
Crownest	7	3	4	161	125 1/5	125 1/5	16	1	3	6	...	...	...	...	17
Bow River	2	9	6	297	603	122 1/2	20	7	6	8	...	...	...	...	27
Clearwater	3	4	2	176 1/2	668	15	6	...	1	5	1	...	...	...	4
Brazeau	2	14	3	169	283 1/2	81	7	4	...	2	2	...	...	...	1
Athabaska	2	...	...	83 1/2	440	...	6	...	1	3	...	...	...	...	2
TOTALS	22	40	18	914	2,173	405 7/10	56	13	11	25	3	...	...	...	52

IMPROVEMENTS—STATEMENT OF MAN-DAYS WORKED

NEW CONSTRUCTION PROJECTS:

Forest	Houses	Garages, Sheds, etc.	Fences	Fields (breaking) in acres	Water Supplies	Telephones (miles)	Corrals	Barns and Stables	Bridges	Look-out Towers	Trails (miles)	Cabins	Fireguard Roads (miles)	Tourist Stoves	Miscel- laneous
Cypress Hills	...	...	...	...	29	31½	...	...	...	...	...	...	87	...	7½
Crowsnest	24	4	...	...	...	...	...	56½	...	...	9	140½	...	...	33½
Bow River	2	3	...	...	...	...	...	...	...	...	...	37	...	...	27½
Clearwater	9½	27½	77½	...	...	80½	...	...	...	27	6	6	...	5½	3½
Brazau	2	...	...	...	...	7	...	...	...	119½	84	...	...	...	6
Atiabaska	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS	37½	34½	77½	...	29	119	...	56½	...	146½	99	183½	87	5½	78

MAINTENANCE PROJECTS:

Forest	Houses	Cabins	Barns and Stables	Telephones (miles)	Trails (miles)	Roads (miles)	Fences	Corrals	Water Supplies	Garages, Sheds, Etc.	Look-out Towers and Cabins	Grounds	Hay Meadows & Pastures	Ferries	Miscel- laneous
Cypress Hills	6½	11½	2	21½	50	26	1½	½	2½	2	...	26½	19½	...	...
Crowsnest	29	8½	9½	230½	153	153	114	2½	1½	7½	...	85½	20½	...	22
Bow River	46	28½	21	343½	303½	295½	281	43½	8	11	...	87½	22	...	10
Clearwater	15½	3½	4	276½	284	33½	44	...	10	14	3	3	8	14	27
Brazau	32	18½	18½	197½	230	191½	43	...	2½	15	26	5	24½	...	46½
Atiabaska	9½	45½	4	97½	211	...	37	25	3½	9	...	...	...	...	7
TOTALS	138½	105½	59	1,169	1,078½	703½	520½	71	28	58½	29	207½	94½	14	112½

PUBLICITY

Publicity regarding forest protection is one part of the Forestry work in which there is little if any evidence as to substantial progress having been made. Although forest protection is largely a matter of public responsibility it becomes, nevertheless, constantly necessary to keep informing citizens from time to time of this responsibility. To forget or become careless of one's duty is one of the commonest of human traits.

The necessity of constantly reminding the public is fully recognized. The numerous enlistments and shortage of staff, however, has not permitted the required time to prepare and deliver addresses and to write articles.

NURSERY AND TREE DISTRIBUTION

Nursery.—The growing of trees from seed has continued at the Oliver Mental Institute and the Fort Saskatchewan and Lethbridge gaols. The work has been carried out as in previous years, and very favourable reports have been received from different settlers who have received and planted trees on their farms.

The season under review was one of normal rainfall and most young trees came through the summer months in good condition, and the loss of young transplants was very light.

The stage has now been reached whereby experiments in growing Bur oak in the province may be called successful. Trees have been produced from seed which bore acorns showing good germination tests, and it is fully hoped that by next year it will be possible to report the reproduction of oak seedlings from Alberta grown acorns.

Success with Red oak and a number of other exotic species is continuing, and it is hoped that the same success as experienced with the Bur oak may be obtained. The experiment has not, however, been of as long duration with the Red oak as with the latter species, and has not, therefore, yet arrived at the reproduction stage.

Distribution of trees was carried out throughout the province as in former years. Reports as to the healthy condition of transplants from the nurseries continue to be most encouraging and farmers are becoming more and more cognisant of the value and benefits of wind-breaks and shelter-belts on their land.

STATEMENT OF SEEDING DONE AT THE OLIVER NURSERY IN 1940

16,000	White spruce (<i>Picea glauca</i>)
7,000	Sitka spruce (<i>Picea sitchensis</i>)
3,200	Blue spruce (<i>Picea pungens</i>)
15,600	Lodgepole pine (<i>Pinus murrayana</i>)
2,400	Yellow pine (<i>Pinus ponderosa</i>)
2,880	Red pine (<i>Pinus resinosa</i>)
12,500	Douglas fir (<i>Pseudotsuga mucronata</i>)
8,640	Siberian larch (<i>Larix sibirica</i>)
400	Elm (<i>Ulmus</i>)
14,000	Lilac (<i>Syringa japonica</i>)

Tree Distribution.—The following species and quantities were given out from Oliver in the spring of 1941:

Transplants:

White spruce (<i>Picea glauca</i>)	31,162
Lodgepole pine (<i>Pinus murrayana</i>)	19,482
Red pine (<i>Pinus resinosa</i>)	8,375
Scotch pine (<i>Pinus sylvestris</i>)	380
Green ash (<i>Fraxinus pennsylvanica</i>)	13,342
Red oak (<i>Quercus rubra</i>)	5,142
Bur oak (<i>Quercus macrocarpa</i>)	4,205
Siberian larch (<i>Larix sibirica</i>)	1,464
American elm (<i>Ulmus americana</i>)	2,587

86,339

Cuttings:	
Laurel-leaf willow (<i>Salix pentandra</i>)	15,145
Golden willow (<i>Salix vitellina</i>)	4,250
North-west poplar (<i>Populus</i>)	17,655
	<hr/> 37,050
Seedlings:	
White spruce (<i>Picea glauca</i>)	20,000
Colorado spruce (<i>Picea pungens</i>)	2,000
Norway spruce (<i>Picea excelsa</i>)	500
Sitka spruce (<i>Picea sitchensis</i>)	25
Siberian larch (<i>Larix sibirica</i>)	1,000
Cedar (<i>Thuja occidentalis</i>)	100
	<hr/> 23,625
Ornamental Species:	
Native hawthorne (<i>Crataegus</i>)	138
Catalpa (<i>Catalpa bignonioides</i>)	2
Honeysuckle (<i>Lonicera ciliosa</i>)	182
Elderberry	20
Flowering almond (<i>Prunus triloba</i>)	3
Eastern cedar (<i>Thuja occidentalis</i>)	12
	<hr/> 357
	<hr/> 147,371

The following species and quantities were given out from Lethbridge in the spring of 1941:

Transplants:	
White spruce (<i>Picea glauca</i>)	1,950
Lodgepole pine (<i>Pinus murrayana</i>)	2,025
Green ash (<i>Fraxinus pennsylvanica</i>)	975
	<hr/> 4,950

MILEAGE TRAVELLED BY EMPLOYEES OF THE ALBERTA FOREST SERVICE

FISCAL YEAR 1940-41

Divisions	Foot	Saddle	Driving	Speeder	Auto	Canoe	Rowboat	Motorboat	Plane	Railway	Other	Totals
Northern Alberta Forest District	14,922 ³ / ₄	39,681	12,076 ¹ / ₂	121,125 ¹ / ₂	86,980	1,191	149	4,461	.....	14,712	355	195,653 ³ / ₄
Crowsnest-Bow River Forest	4,448	32,450	3,747	.....	72,009	.....	.....	25	.....	272	.....	112,951
Clearwater Forest	3,203	11,430	2,268 ³ / ₄	305	16,571	.....	.....	.....	.....	40	52	33,869 ³ / ₄
Brazeau-Athabaska Forest	3,412	15,278	1,914	6,527	9,978	.....	.....	.....	.....	3,212	.....	40,321
Cypress Hills Forest	30	1,361	54	.....	7,562	.....	.....	.....	.....	.....	.....	9,007
Radio Division	170	705	.....	.....	19,295	.....	.....	.....	.....	830	.....	21,000
TOTALS	26,185 ³ / ₄	100,905	20,059 ³ / ₄	27,957 ¹ / ₂	212,395	1,191	149	4,486	.....	19,066	407	412,802

Mining Lands Administration

REPORT OF THE SUPERINTENDENT OF MINING LANDS, J. W. HAMILTON

The two principal mining industries in the province, coal and petroleum, showed a marked increase in production for the calendar year of 1940 over the previous year. The increase in the output of coal was almost 700,000 tons and the increase in petroleum, 900,000 barrels.

Production totals of Alberta's non-metallic minerals secured during the calendar year 1940 were as follows:—coal, 6,205,088 tons; petroleum, 8,495,207 barrels; natural gas, 26,402,299 thousands of cubic feet; salt, 8,524 tons and sodium sulphate, 10 tons. The tonnage of clays produced is not known, but totals in the production of other structural minerals were cement, 414,183 barrels; lime, 16,872 tons; sand and gravel, 1,638,068 tons; and stone, 20,890 tons.

The total value of minerals produced was approximately \$30,902,851 of which coal was valued at \$16,334,323; petroleum, \$10,508,741; natural gas, *\$1,056,089; salt, \$85,238; sodium sulphate, \$50. Valuations of structural materials were clay products, \$838,856; cement, \$832,508; lime, \$149,720; sand and gravel, \$1,046,867; stone, \$42,173; and miscellaneous, \$8,286.

Mineral rights, solid, liquid and gaseous, the property of the Crown, are not sold but are disposed of by lease, reservation, permit or grant for limited periods of time. The Mining Lands Division is responsible for the administration of regulations governing these rights on both provincial and school lands. Revenue is obtained from fees, rentals, bonuses and royalties and during the fiscal year a total of \$1,107,989.96 was received.

The activity under the regulations for the establishment of reservations on large areas for geological examination continued and during the fiscal year 638,889 acres were acquired under the regulations, which exceeded the previous year by more than 150,000 acres. These regulations, however, were rescinded in March, 1941, and new regulations became established governing the reservation of petroleum and natural gas rights for geological and/or geophysical examination, including any investigation relating to sub-surface geology. The application fee under the new regulation is \$250.00 and the applicant must post a cash deposit of \$750.00 for each 20,000 acres or part thereof when the application is for surface geological investigation, or \$2,000.00 for each 20,000 acres or part thereof when the examination will include geophysical operations or investigation relating to sub-surface. The cash deposits are refundable on full compliance with the requirements under which the reservations are issued.

During the year 697 applications for mineral rights were made at the offices of the mining recorders at Edmonton, Calgary, Lethbridge and Peace River, which required the preparation of a similar number of files in the Division. Several enquiries were made daily as to the availability of mining rights mostly for petroleum and natural gas leases or reservations by personal application at the office and by correspondence. The Division dispatched, during the year under review, a total of 25,316 letters.

The natural resources of Alberta were transferred from the Dominion Government to the control of the Government of Alberta on October 1st, 1930, and the following tabulation shows the numbers and acreages of the various leases issued from that date to March 31st, 1941.

*Based on well-head valuation of 4 cents per Mcf.

Type of Lease	Active at date of transfer	Issued	Reinstated	Divided	Cancelled	Renewed	Active at March 31st, 1941
Petroleum and natural gas, provincial lands.....	16,899	7,992	51	316	21,450	140	3,668
Petroleum and natural gas, school lands.....	1,964	1,001	8	30	2,656	1	346
Petroleum and natural gas, crown reserve.....	5	20	...	...	25	...	...
Coal, provincial lands	620	363	1	4	547	108	333
Coal, school lands	60	26	1	...	54	7	26
Quarrying	45	53	...	...	48	...	50
Quartz mining	4	...	...	...	...	...	4
Salt	1	1	...	...	1	...	1
Bituminous sands	4	2	...	...	4	...	2
Miscellaneous	1	3	...	...	1	...	3
Dredging	32	8	...	...	38	...	2
TOTALS	19,635	9,469	61	350	24,824	256	4,435

ACREAGE CONTAINED IN ABOVE LEASES

Type of Lease	Active at date of transfer	Issued	Reinstated	Cancelled	Renewed	Active at March 31st, 1941
Petroleum and natural gas, provincial lands..	2,263,076	1,638,974	10,895	3,043,368	19,714	849,863
Petroleum and natural gas, school lands	191,726	156,668	1,303	290,398	420	58,879
Petroleum and natural gas, crown reserve....	6,160	22,561	...	28,721	...	...
Coal, provincial lands	236,984	113,909	40	173,040	75,965	101,928
Coal, school lands	9,570	2,433	53	6,097	1,464	4,495
Quarrying	1,675	583	...	1,006	...	1,252
Quartz mining	182	...	...	...	...	182
Salt	200	6,721	...	200	...	6,721
Bituminous sands	3,952	2,063	...	5,451	...	564
Miscellaneous	3,560	323	...	10	...	3,873
TOTALS	2,717,085	1,944,235	12,291	3,548,291	97,563	1,027,757
Dredging (in miles)	145	24	...	167	...	2

STATEMENT OF BUSINESS TRANSACTED, 1940-41
PETROLEUM AND NATURAL GAS

	Number	Acres
Leases issued on provincial lands	500	121,434
Leases cancelled and relinquished on provincial lands	1,748	326,087.30
Leases reinstated on provincial lands	14	1,439
Leases issued on school lands	72	15,623
Leases cancelled and relinquished on school lands	221	45,500.25
Leases reinstated on school lands	1	120
Reservations granted	28	638,889
Reservations cancelled and relinquished	28	523,200
Fees, rentals and bonuses collected		\$266,141.52
Royalties collected		523,334.79
TOTAL		\$789,476.31

COAL

	Number	Acres
Leases issued on provincial lands	9	371
Leases cancelled and relinquished on provincial lands	34	2,832.71
Leases issued on school lands	1	40
Leases reinstated on school lands	1	53
Leases cancelled and relinquished on school lands	8	294.15
Domestic permits issued	15	...
Fees and rentals collected		\$ 89,637.77
Royalties collected		215,886.92
TOTAL		\$305,524.69

QUARRYING

	Number	Acres
Leases issued	7	5
Leases cancelled and relinquished	4	40
Sand, stone and gravel permits issued	32	...
Fees and rentals collected		\$ 1,253.95
Royalties collected		4,691.25
TOTAL		\$ 5,945.20

DREDGING		
	Number	Area in Miles
Leases issued	2	2.50
Leases cancelled and relinquished .....	.....	.....
Fees and rentals collected	\$ 135.00	
Royalties collected		
TOTAL	\$ 135.00	

MISCELLANEOUS		Number
Bituminous sands leases issued .....		.....
Bituminous sands leases cancelled .....		.....
Permits to collect bitumen issued		2
Quartz mining claims granted		10
Quartz mining certificates of work issued		1
Powers of Attorney (quartz) filed		37
Placer claims granted		6
Powers of Attorney (placer) filed .....		.....
Bar-digging permits issued .....		.....
Fees, rentals and royalties collected	\$6,908.76	

ASSIGNMENTS REGISTERED, 1940-41		
Nature		Number
Petroleum and natural gas, provincial lands		502
Petroleum and natural gas, school lands		48
Coal, provincial lands		7
Coal, school lands		3
Quarrying		1
TOTAL		561

PETROLEUM AND NATURAL GAS

Development of Leases.—The regulations provide that approved expenditures incurred in actual development of petroleum and natural gas rights, acquired under lease or reservation, may be accepted in satisfaction of rentals which otherwise would be payable in cash. During the fiscal year under review, rentals due the province amounting to \$757,187.27 were satisfied from such expenditures and so reduced the revenue of the Division by that amount. The total revenue received in cash for fees, rentals and bonuses was \$266,141.52, which, added to the expenditures accepted in lieu of rentals, makes a total of \$1,023,328.79.

Disposal by Public Tender.—Bonuses amounting to \$3,741.13 were accepted during the fiscal year at sales by public tender of petroleum and natural gas rights formerly comprised in cancelled leases or reservations. Of this amount, \$2,877.60 was applicable to provincial lands, and \$863.53 to school lands.

Number and Area of Leases.—During the year 572 petroleum and natural gas leases were issued covering an area of 137,057 acres, of which 500, comprising 121,434 acres, represented provincial lands and 72, comprising 15,623 acres, were school lands.

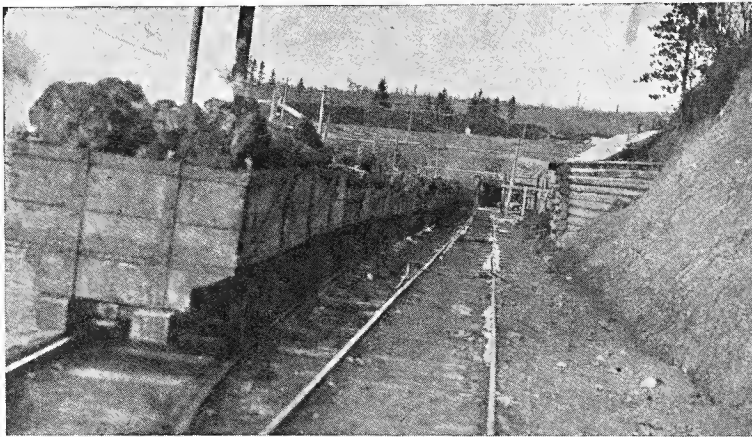
At the close of the fiscal year a total of 4,014 leases were active containing an area of 908,742 acres.

Reservations.—The regulations governing the reservation of large areas of petroleum and natural gas rights for geological examination which were established on the 7th day of September, 1937, were rescinded and cancelled on the 6th day of March, 1941. Twenty-eight reservations were granted in this fiscal year while these regulations were operative covering an area of 638,889 acres. A similar number of reservations was cancelled containing an area of 523,200 acres and at the close of the fiscal year 559,120 acres were still under reservation.

New regulations governing the reservation of petroleum and natural gas rights, the property of the Crown, for geological and/or geophysical examination, including any investigation relating to sub-surface geology were established on the 6th day of March, 1941, under Order in Council, No. 278/41. Although several applications were accepted pursuant to these regulations the reservation forms were not received from the printer by March 31st, 1941.

COAL

New coal leases may be granted either for the extension of existing operations or for small mines where the local market cannot be economically supplied from operating mines in the vicinity. In the fiscal year, 15 applications were considered and 10 leases issued containing 411 acres. There are now active 359 leases comprising 106,423 acres.



Coal-cars emerging from mine in the Nordegg area, Alberta

During the current fiscal year the following quantity of coal, subject to Crown royalty, was mined:—

	Tons
Provincial lands' leases	2,881,647
School lands' leases	321,263
Coal lands' and mineral sales	726,902
TOTAL	3,929,812

Crown royalties collected on coal mined in Alberta since April 1st, 1907, are given on the next page. In comparison with similar statements appearing in the Annual Reports of previous years, it will be noticed that a correction has been made, which shows the totals from the latter half of the fiscal year 1930-31 onward as subdivided into royalties collected on coal recovered from provincial lands and also from school lands.

DEPARTMENT OF LANDS AND MINES

CROWN ROYALTIES COLLECTED ON COAL

Fiscal Year	Royalty Paid	Fiscal Year	Royalty Paid
1907-08	\$ 7,621.67	1920-21	\$ 190,545.80
1908-09	5,322.39	1921-22	185,436.88
1909-10	153,559.98	1922-23	171,723.83
1910-11	218,932.88	1923-24	210,389.53
1911-12	104,894.55	1924-25	148,979.10
1912-13	142,997.79	1925-26	188,277.94
1913-14	147,198.75	1926-27	218,150.10
1914-15	104,489.77	1927-28	231,757.96
1915-16	67,190.17	1928-29	254,616.27
1916-17	149,447.82	1929-30	248,083.71
1917-18	144,634.75	1930-31 (First half)*	90,052.07
1918-19	175,687.66		
1919-20	181,641.80		\$3,741,633.17
1930-31 (Last half)*		Provincial Lands	School Lands
1931-32		\$105,126.51	\$ 5,014.29
1932-33		145,170.33	6,354.09
1933-34		143,800.01	4,971.78
1934-35		193,527.82	9,520.13
1935-36		176,122.43	12,365.39
1936-37		186,691.23	19,779.76
1937-38		175,214.33	18,596.00
1938-39		158,227.11	15,159.15
1939-40		143,070.78	9,270.23
1940-41		168,802.75	7,812.78
		200,045.68	15,841.24
TOTAL			\$5,662,116.99

*Date of transfer of Alberta's natural resources from federal to provincial control, and date also of the creation of the Department of Lands and Mines, Alberta, October 1st, 1930.

Permits for Domestic Use.—Permits to mine coal on provincial lands by strip-mining methods for domestic use may be issued to actual settlers on payment of a fee of one dollar and royalty at the rate of ten cents a ton. During the year 15 permits were issued authorizing an extraction of 286 tons, none of which could be bartered or sold.

QUARRYING

One quarrying lease was issued on surveyed lands containing an area of five acres and six leases were issued during the fiscal year for removing gravel from the bed of the North Saskatchewan River. Extraction of 215,421 cubic yards of sand, gravel, limestone and shale from provincial lands was reported for the calendar year of 1940.

At the close of the fiscal year, 50 leases were active containing an area of 1,252 acres.

Permits.—Sand, stone and gravel permits are issued on the beds of rivers and lakes at a fee of \$2.50 and a royalty of five cents a cubic yard and expire on the 30th day of November following the date of issue. In this fiscal year 32 permits were issued for the extraction of 39,604 cubic yards.

DREDGING

Two dredging leases were issued covering two and one-half miles of the bed of the Athabaska River for operation in conjunction with the placer claims along the river bank in townships 63 and 64, range 3, west of the 5th meridian.

QUARTZ

There was no new activity during the fiscal year and no new claims were recorded. The claim in the Drumheller district for the recovery of bentonite was renewed. Royalty of \$53.77 was paid on this claim representing 2½% of the value of the bentonite recovered.

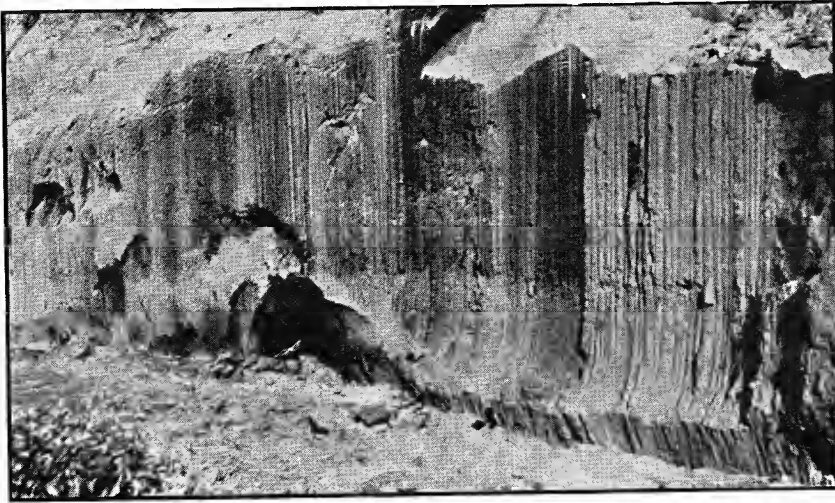
The four quartz leases covering 181.8 acres issued by the Department of the Interior are still active.

PLACER

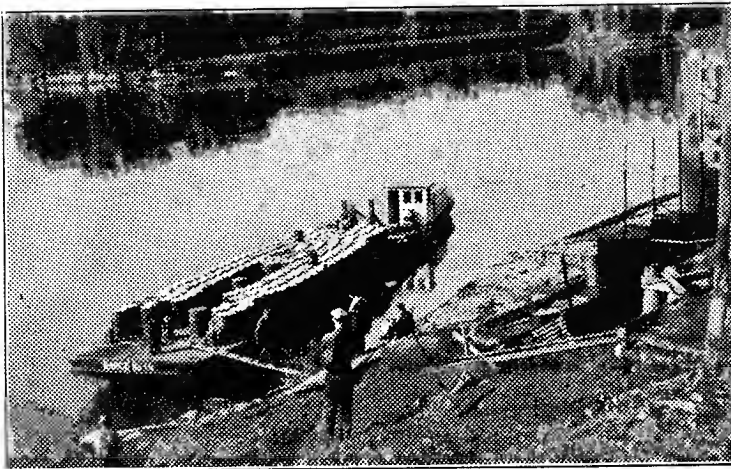
Activity along the Athabaska River in townships 63 and 64, range 3, west of the 5th meridian, continued during the year and 32 grants were issued for staked claims. Five other grants were issued, four along the McLeod River and one in the vicinity of Whitelaw in the Peace River mining district. Recovery of 12.5 ounces of gold was reported during the year.

BITUMINOUS SANDS

Two leases are active at present in the McMurray area containing an area of 564 acres and two separation plants are experimenting on areas held under special development agreements but commercial production has not as yet been reported.



Bituminous sand exposure, Horse River, McMurray, Northern Alberta



Oil recovered from bituminous sands in vicinity of McMurray en route to northern mining areas

SODIUM CHLORIDE (Common Salt)

The salt plant having been enlarged and remodelled during the previous year reported extraction for this fiscal year of 11,720 tons of salt on which royalty at the rate of twenty cents a ton was collected. This plant is located on the lease issued in 1937 covering 6,720.82 acres.



Waterways, Alberta, from air, showing salt plant, town, Clearwater River and Hangingstone River (small)
Photo by Dr. J. A. Allan

MISCELLANEOUS LEASES

Two leases are in force for removal of sodium sulphate (glauber salts) occurring in comparatively pure condition in certain sloughs and shallow lakes. The leases contain an area of 32.56 acres and production of seven tons was reported for the year.

SPECIAL PERMITS

The annual permit for the collection of bitumen issuing from a well in the Peace River District was again renewed and a new permit was issued on another well in the area. Production of 1,283 gallons was reported during the year.

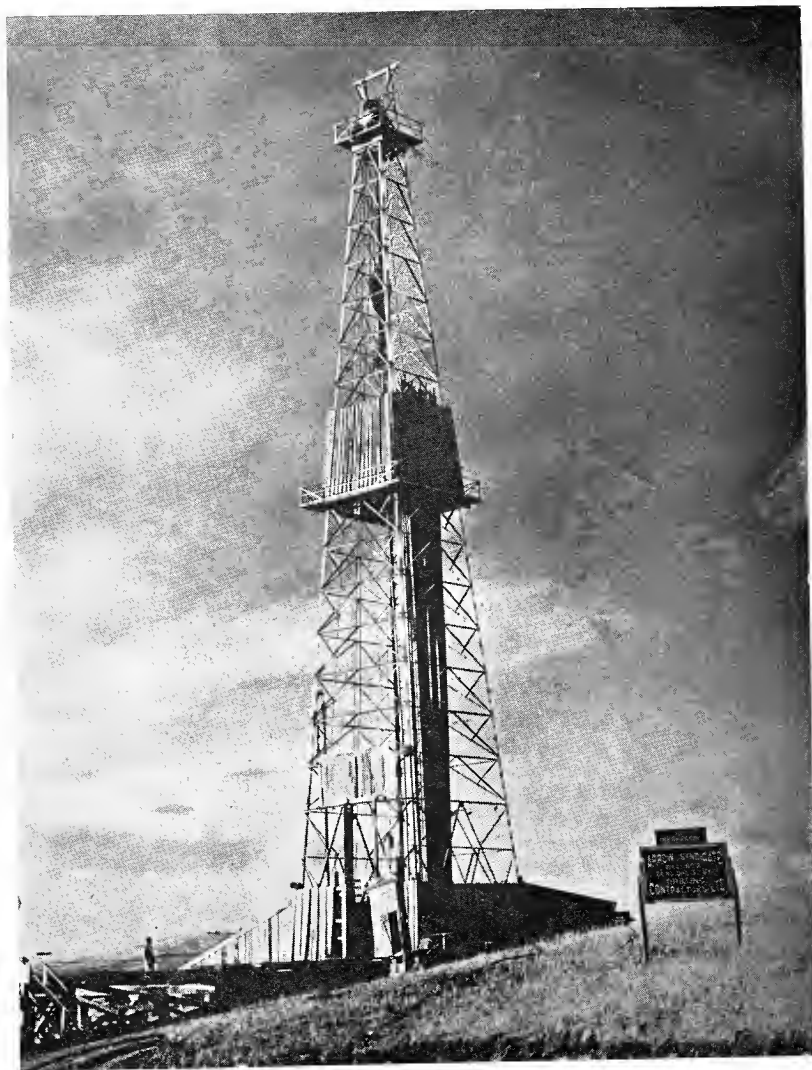
PETROLEUM AND NATURAL GAS

Drilling activity and statistical data

(Development in 1940-41)

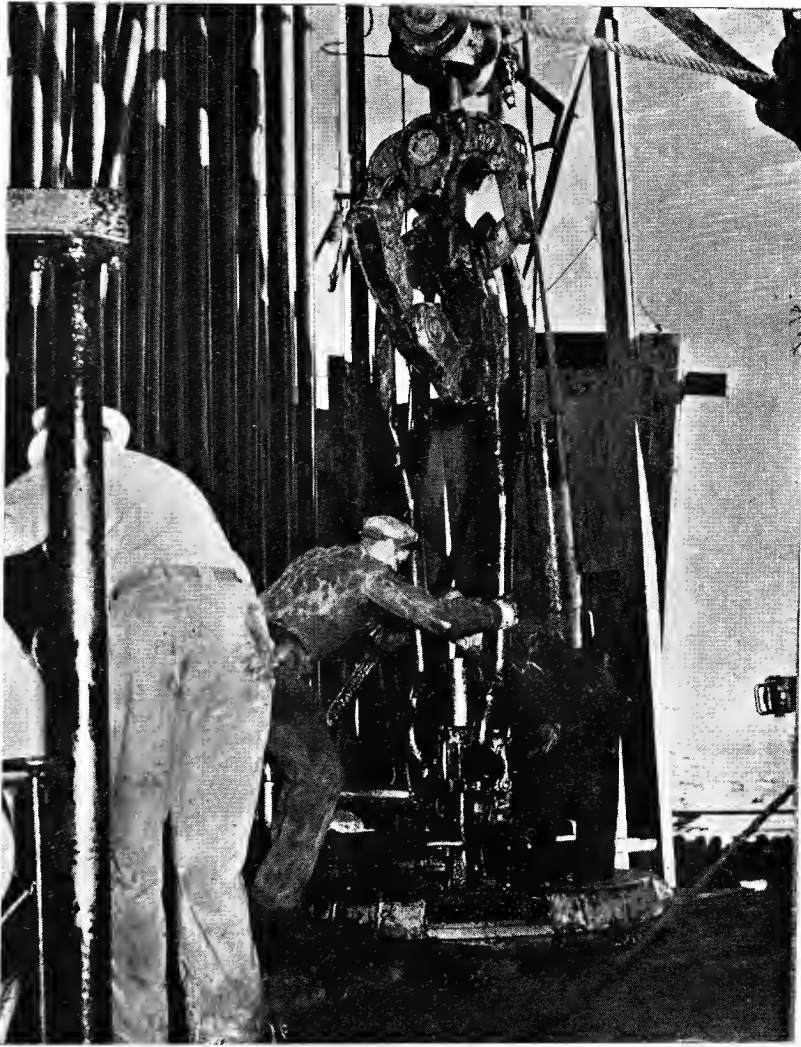
The fiscal year 1940-41 contributed another record in petroleum production with a total of 9,170,931 barrels, an increase of 1,131,652 barrels over the previous fiscal year.

The following review of drilling activity and statistical data covering this period is presented.



Arrow, No. 2 well, pioneer producer of central Turner Valley's west flank

Photo by Don Coltman



Running tools

Photo by Don Coltman

TURNER VALLEY COMPLETIONS DURING THE YEAR

Arranged by date of reaching final depth

Well	Location West of 5 M.	Depth	Date Started	Drilling Finished
East Crest 5	* 9 of 6, 19-2	7762'	Sept. 28, 1939	Apr. 1, 1940
Calmont N.W. 1.	3 of 18, 19-2	7609'	Dec. 9, 1939	Apr. 23, 1940
Royalite 48	10 of 7, 19-2	7533'	Jan. 1, 1940	Apr. 29, 1940
N.W.H.B. 3	15 of 8, 18-2	8120'	Dec. 11, 1939	May 3, 1940
Davies 5	10 of 18, 19-2	7391'	Mar. 6, 1939	May 5, 1940
Royalite 50	7 of 17, 18-2	7790'	Jan. 8, 1940	May 12, 1940
Anglo-Phillips 1	14 of 15, 20-3	9058/8780'	Sept. 28, 1939	May 16, 1940
York 3	3 of 20, 18-2	8024'	Nov. 10, 1939	May 16, 1940
Royal Canadian 4	12 of 32, 18-2	8089'	June 13, 1938	May 17, 1940
Kamalta 1	1 of 6, 19-2	8128'	Nov. 6, 1939	Aug. 19, 1940
Foothills 6	5 of 27, 20-3	8140'	Dec. 18, 1939	June 6, 1940
Royalite 51	13 of 5, 19-2	7413'	Feb. 15, 1940	June 17, 1940
Alta. Oil I. 1	4 of 34, 20-3	6974'	Oct. 7, 1939	June 24, 1940
Commoil 3	13 of 29, 18-2	8611'	Jan. 13, 1940	July 9, 1940
Southwest 4	4 of 8, 19-2	7225'	May 6, 1940	Aug. 23, 1940
Pacific 5	6 of 7, 19-2	8094'	Jan. 8, 1940	Aug. 31, 1940
Okalta 9	13 of 18, 19-2	7971'	Mar. 4, 1940	Sept. 23, 1940
Royalite 52	12 of 5, 19-2	7609'	May 19, 1940	Sept. 24, 1940
Alta. Oil I. 2	4 of 4, 21-3	8809'	Dec. 13, 1939	Oct. 9, 1940
N.W.H.B. 4	14 of 8, 18-2	8387'	May 10, 1940	Oct. 19, 1940
Arrow 2	15 of 13, 19-3	8353'	May 19, 1940	Oct. 22, 1940
Twin Valley 1	9 of 13, 19-3	8184'	May 17, 1940	Oct. 28, 1940
Calmont N.W. 2	5 of 18, 19-2	7956'	June 8, 1940	Oct. 31, 1940
Foothills 5	13 of 27, 20-3	7775'	June 24, 1940	Nov. 7, 1940
Allied 1	16 of 6, 19-2	7625'	May 27, 1940	Nov. 10, 1940
Home-Millarville 5	16 of 28, 20-3	8066'	May 8, 1940	Nov. 11, 1940
Pacific 4	3 of 32, 18-2	8019'	Dec. 5, 1939	Nov. 30, 1940
Foothills 7	4 of 27, 20-3	8588'	June 17, 1940	Dec. 8, 1940
Home-Millarville 1	8 of 33, 20-3	8010'	May 10, 1940	Dec. 20, 1940
Commoil 4	9 of 29, 18-2	7308'	July 27, 1940	Dec. 25, 1940
Royalite 54	1 of 7, 19-2	7367'	Aug. 29, 1940	Jan. 3, 1941
Home-Millarville 6	8 of 28, 20-3	8446'	July 6, 1940	Jan. 8, 1941
Royalite 53	4 of 19, 19-2	7678'	Oct. 2, 1940	Jan. 19, 1941
Anglo-Phillips 2	9 of 35, 19-3	7749'	Sept. 27, 1940	Mar. 19, 1941
Okalta 10	12 of 18, 19-2	7970'	Oct. 29, 1940	Mar. 22, 1941
Independent 1	7 of 24, 19-3	8225'	July 29, 1940	Mar. 26, 1941

As on March 31, 1941, completions in Turner Valley stood as follows:—

Gas wells completed	116
Gas wells abandoned	15
Gas wells transferred to oil well list	4
Gas wells capable of producing	97
Oil well completions (includes 4 wells formerly classed as gas wells)	144
Deduct as not yet on production	2
Deduct as not commercial	2
Producing in March, 1941	140

*Note:—Legal sub-division 9 of section 6, township 19, range 2, west of the 5th meridian.

DRILLING ACTIVITY OUTSIDE TURNER VALLEY

Princess Field (Formerly Called Steveville).—Anglo Canadian 2—in 4 of 14, 20-11 W. 4—was deepened to 4,243', obtaining some further geological information.

Anglo Canadian 3—in 5 of 18, 20-11 W.4—was preparing to drill at the end of the fiscal year.

Standard Oil of British Columbia 1—in 13 of 22, 20-12 W. 4—plugged back to 3,195', after drilling to 6,155', and testing various horizons. It was completed as a gas well.

Standard Oil of British Columbia 2—in 3 of 13, 20-12 W. 4—was drilled to 4,250' and plugged back to 3,325'. Favourable indications of oil were obtained and tests were continuing.

Standard Oil of British Columbia 3—in 5 of 13, 20-12 W. 4—was drilled to 3,260'. Oil and gas were encountered, together with some water. Testing and cementing operations were proceeding at the end of the fiscal year.



Driller and crew, Home No. 6 well, northern Turner Valley

Photo by Don Coltman

Standard Oil of British Columbia 4—in 13 of 12, 20-12 W. 4—started to drill shortly before the end of the period, reaching a depth of 1,636' at the end of March.

Standard Oil of British Columbia Tide Lake 1—in 9 of 19, 18.9 W. 4—drilled to 4,250'. Some showings of oil and gas were reported, but tests showed that there was no commercial production, and the well was abandoned.

Vermilion Field.—Acme Oil and Gas Co. 1—in 5 of 20, 50.5 W. 4—was drilled to 1,827'. Some gas was obtained, though not in commercial quantity, and water also showed.

Acme Oil and Gas Co. 2—in 6 of 20, 50.5 W. 4—was drilled to 1,827', and obtained indications of oil, but tubing was dropped before obtaining oil production, and operations were suspended.

Alberta Southern Oils Ltd. 1—in 15 of 20, 50.5 W. 4—started drilling late in March, 1941, and suspended operations at 1,000', shortly after the end of March.

Franco Battlevue 3—in 13 of 20, 48.5 W. 4—was drilled to 1,767'. A little oil was probably produced, though not officially reported, and water was then produced.

Franco Dalton 1—in 25, 50.6 W. 4, was drilled to 2,306'. Further testing is proposed, but no oil production has as yet been obtained.

Franco Hamers 1—in 16 of 19, 50.5 W. 4—was drilled to 1,840', with showings of oil, but testing was not finished at the close of the fiscal year.

Franco Hamers 2—in 9 of 19, 50.5 W. 4—drilled to 1,850', with showings of oil, was not completed at the close of the fiscal year.

Richardson, Geo. A., 1—in 14 of 20, 50.5 W. 4—was drilled to 1,826'. Oil was encountered, but production had not started at the close of the period.

Richardson Max 1—in 11 of 20, 50.5 W. 4—was drilled to 2,150'. Tests may have been inconclusive, but no oil was obtained from the tests carried out.

Vermilata Frankview 1—in 16 of 28, 50.5 W. 4—was drilled to 2,162'. Small shows of gas and oil were obtained, but the well was abandoned on failing to obtain commercial production.

Vermilata Frankview 2—in 4 of 29, 50.5 W. 4—completed at 1,843' as an oil well. Oil flowed for a time, and was later pumped.

Western Battlevue 1—in 1 of 30, 50.5 W. 4—completed at 1,859' as an oil well.

Wainwright Field.—Montreal Alberta 1—in 2 of 15, 45.7 W. 4—in a test of the palaeozoic, drilled about 100' during the year and bottomed at 4,647' at the close of the period.

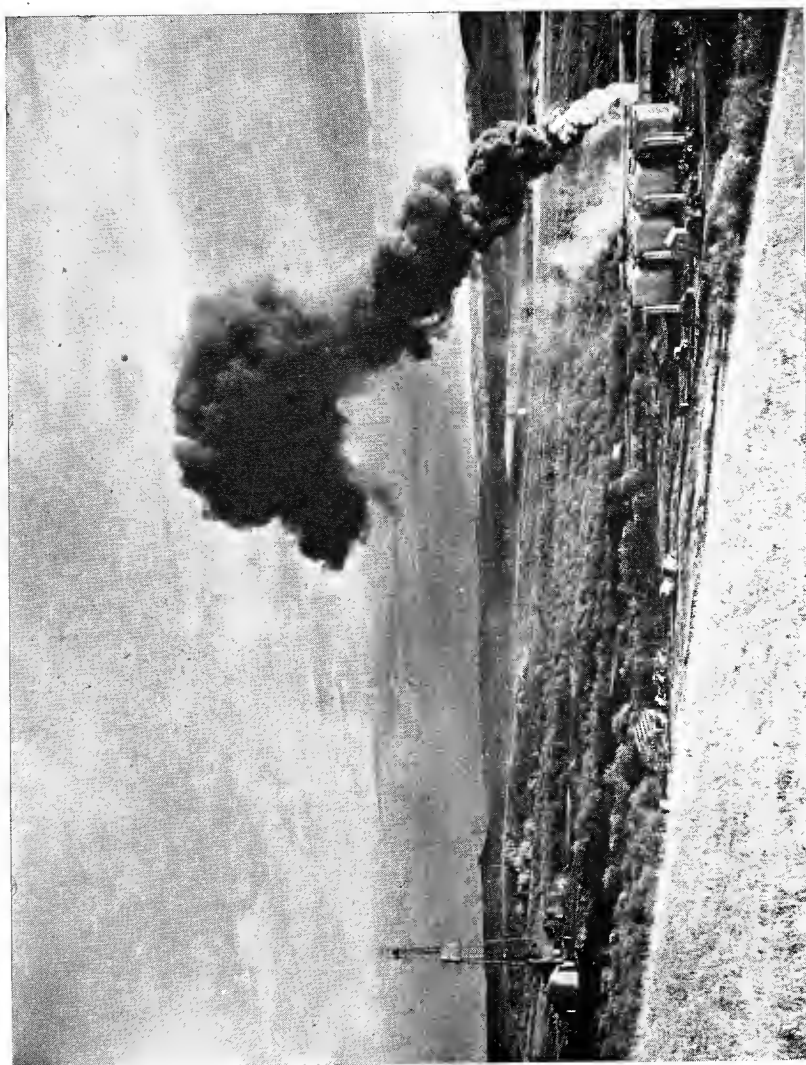
Aldersyde Area.—Ranchmen 1—in 16 of 13, 20-29 W. 4—carried out some fishing operations, but did not succeed in clearing the hole to its former depth of 7,238'.

Bragg Creek.—Dome 1—in 4 of 16, 22.6 W. 5—drilled to about 72' and later abandoned the hole due to mechanical difficulties.

Inland Sarcee 1—in 2 of 4, 23.4 W. 5—(Sarcee Indian Reserve)—drilled to a depth of 1,285' and suspended.

McColl-Frontenac 1—in 9 of 6, 23.6 W. 5—drilled to 5,200' and abandoned the hole on finding no commercial production.

Brazeau.—Home 1—in about 16 of 7, 43-17 W. 5—drilled to 8,728', tested various horizons, and abandoned on finding no commercial production.



Twin Valley, No. 1 well, a central Turner Valley producer

Photo by Don Coltman

Ram River 2—in unsurveyed territory—about 8 of 2, 37-11 W. 5—drilled to 3,000' and suspended operations.

Highwood.—Alberta Pacific Consolidated Sheppard Creek 1—in 6 of 7, 16-2 W. 5—was drilled to 6,000 feet and abandoned.

Lethbridge.—Lethbridge Petroleum and Refineries 1—in 12 of 11, 8-22 W. 4—resumed operations, and at the end of the period was at a depth of 3,282'

Lloydminster.—Lloyd Gates 1—in 9 of 26, 49-1 W. 4—drilled to 2,085' and abandoned.

Lundbreck.—Maxmont 1—in 10 of 20, 9-2 W. 5—continued operations and reached 8,530' at the end of the fiscal year.

Medicine Hat.—Servicing operations were the only activities in this field.

Pouce Coupe.—Guardian 1—in 7 of 7, 80-12 W. 6—was drilled to 6,641' before winter caused temporary suspension.

Spring Coulee.—Buckley Oils 1—in 4 of 23, 1-20 W. 4—drilled to 3,834' and suspended operations.

Cord 1—in 16 of 35, 3-23 W. 4—drilled to 6,017 feet, tested, and suspended. (Operations 1939-40.)

Lyons McIntyre 1—in 14 of 19, 3-21 W. 4—reached a depth of 5,148' and abandoned.

Northwest West 1—in Blood Indian Reserve—about 3 of 20, 5-23 W. 4—drilled to 8,082', reaching that depth shortly after the close of the fiscal year, and abandoned after testing.

Sundre.—Clear Oils 1—in unsurveyed territory—about 8 of 2, 35-10 W. 5—drilled to 1,398', with operations still in progress.

Waterton-Pincher Creek.—Alliance 1—in 14 of 11, 6-2 W. 5—drilled to 6,723' and suspended operations.

Willow Creek.—Oilfield Development 1—in 7 of 7, 13-2 W. 5—drilled to 1,710', and suspended for the winter.

DRILLING PROGRESS

Drilling for oil and gas can be divided into two categories: development or exploitation of proven areas, and exploration aimed at discovery. A sharp line between these two categories is difficult to draw, for the reason that a discovery of oil or gas does not necessarily prove a field, and in an apparently proven field there will be some failures. For the first time in these annual reports an attempt is made to distinguish development footage outside Turner Valley from exploration footage.

During the fiscal year, the following footage was drilled:

	DEVELOPMENT			Total
	Turner Valley	Other Oil and Gas Fields	Exploration	
April-June	59,099	3,712	12,324	75,135
July-September	75,947	5,885	10,110	91,942
October-December	83,321	14,011	19,902	117,234
January-March	99,846	2,510	11,893	114,249
TOTALS.....	318,213	26,118	54,229	398,560

OIL PRODUCTION IN ALBERTA

Fiscal year, 1940-41

	No. of Wells	Barrels	Value of Sales
Turner Valley, oil wells, separators	140	8,780,045	\$10,820,281
Turner Valley, gas wells, separators	58*	60,683	92,708
Turner Valley, natural gasoline, plants .....	.....	274,815	527,052
Turner Valley, shallow crude	3	7,186	9,548
Turner Valley Total	201	9,122,729	\$11,449,589
Red Coulee	7	12,015	8,975
Wainwright	4	7,973	5,815
Vermilion	3	15,356	.....
Miscellaneous	7	12,858	13,253
TOTAL	222	9,170,931	\$11,477,632

*Not including wells which were known to produce only gas.

GAS WITHDRAWALS FROM TURNER VALLEY IN Mcf.

	During Year	To End March, 1941
Gas Cap	19,322,000	1,047,032,000
Oil Zone	31,813,000	89,044,000
TOTAL	51,135,000	1,136,076,000
Gas Wasted	31,939,000	930,325,000

PRESSURES IN GAS FIELDS, 1940

Turner Valley—875 to 393 (No average attempted).

Viking—504 (A decline of 14 pounds from 1939).

Medicine Hat, Redcliff—406 (Based on partial information).

PRODUCTION AND DISTRIBUTION OF ALBERTA CRUDE PETROLEUM

Calendar Year 1940

(Quantities in Barrels)

Production—	
Light crude (24° or over)	8,196,297
Heavy crude (under 24°)	24,738
Natural gasoline	274,172
Total Production	8,495,207
Distribution—	
Alberta refinery runs	4,621,879
Exports from Alberta	3,883,065
Losses and adjustments	28,552
Total Distribution	8,533,496
Withdrawals from Storage	38,289
Total Production	8,495,207
Storage beginning	494,080
Storage end	455,791

OIL USED IN ALBERTA IN 1940

(Quantities in Barrels)

Supply: Refinery runs—	
Alberta crude oil	4,621,879
Imported oil	10,140
	4,632,019
Less refining and other losses, production of non-taxable products, exempt sales, fluctuation in unfinished stocks	1,349,281
Refinery production of taxable petroleum products	3,282,738
Imports of taxable petroleum products from U.S.A. and other provinces	210,301
Total supply of taxable petroleum products	3,493,039
Distribution—	
Sales in Alberta	2,676,683
Shipments to other provinces	991,206
Total Distribution	3,667,889
Deduct withdrawals from storage	174,850
Total New Supply	3,493,039
Storage, white products, beginning	835,755
Storage, white products, end	660,905

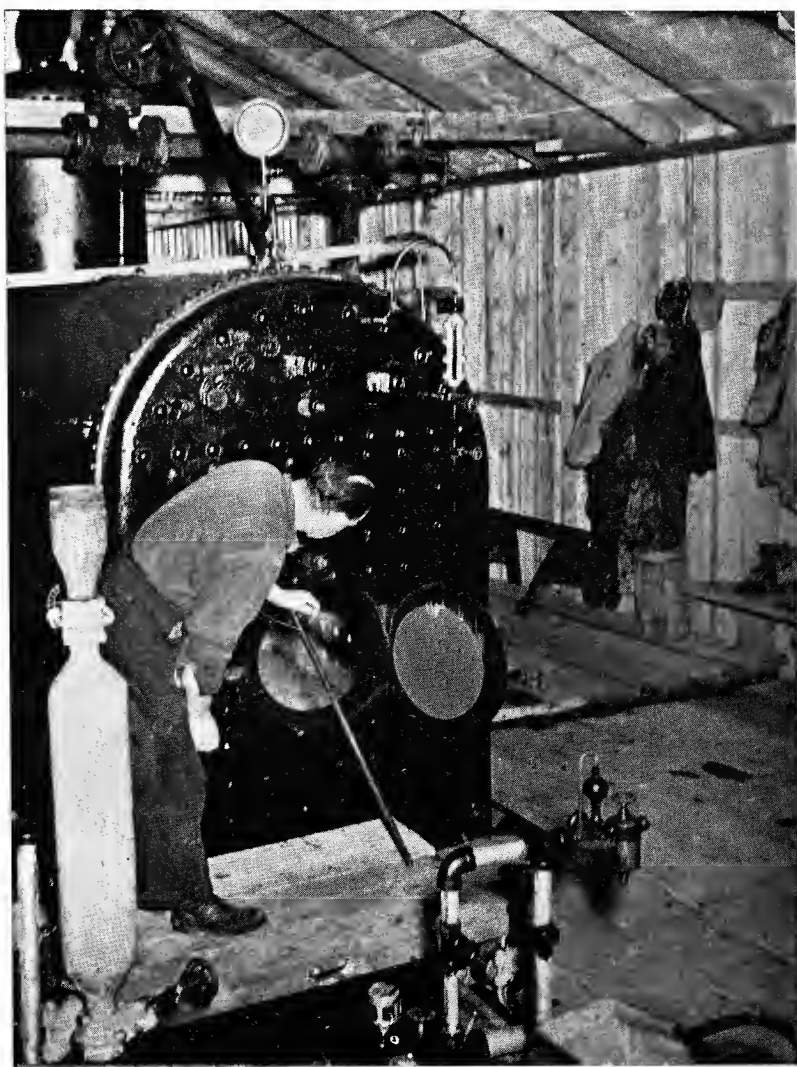
These tables of production and distribution of crude petroleum and oil used in the province are prepared from data that are more nearly complete than similar tables previously published.

GAS CONSUMPTION IN ALBERTA, 1940-41

	No. of Wells	Thousands of Cubic Feet
Calgary-Lethbridge System—		
From Foremost—to Gas Company	3	16,752
From Turner Valley	97	
Gas Company		7,100,504
Imperial Refinery		964,241
Bow Island Town		39,197
Field fuel		11,092,799
		<hr/> 19,196,741
Wainwright—		
Town Supply	2	101,567
Field fuel	3	9,050
		<hr/> 110,617
Brooks	6	55,778
Edmonton and towns—		
From Viking	21	3,954,048
From Kinsella	1	339,439
		<hr/> 4,292,487
Medicine Hat	34	2,384,140
Redcliff	11	642,313
Red Coulee—field use including export	1	12,802
Miscellaneous	9	32,641
		<hr/>
TOTAL	188*	26,744,271
Waste, Turner Valley		31,938,761
Waste, other (partial record)		163,000
		<hr/>
TOTAL natural gas production		58,846,032

*Includes only wells believed to be in use during the year.

There are additional wells of value as standby to distribution systems, and a number of wells each serving a single consumer. Some other wells doubtless might be used when connected to a distribution system, but in absence of such connection, their condition and state of reserves are so little known as to make definite statements undesirable.



Fireman at drilling well

Photo by Don Coltman



Map of Turner Valley

Photo by Don Coltman

Technical Division

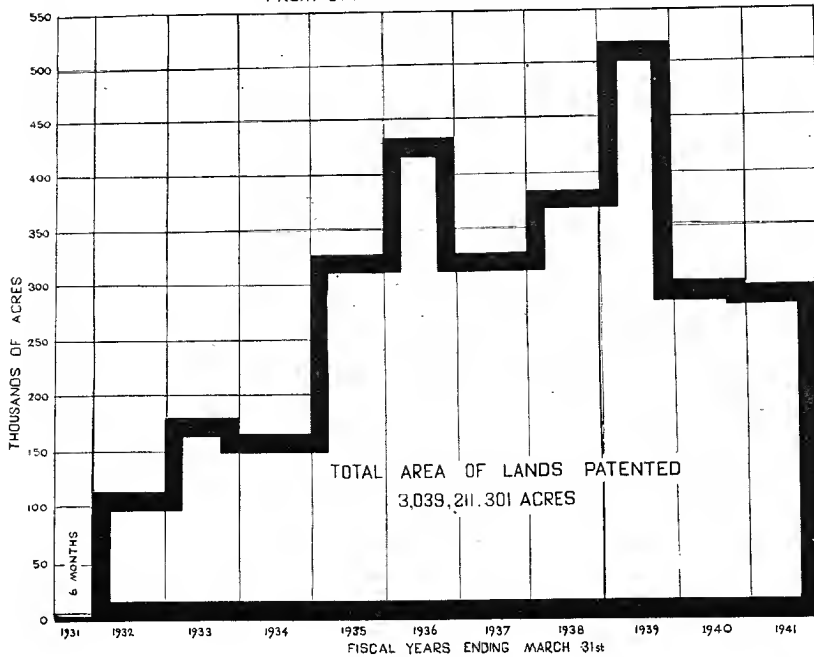
REPORT OF THE SUPERINTENDENT OF THE TECHNICAL DIVISION, T. W. DALKIN

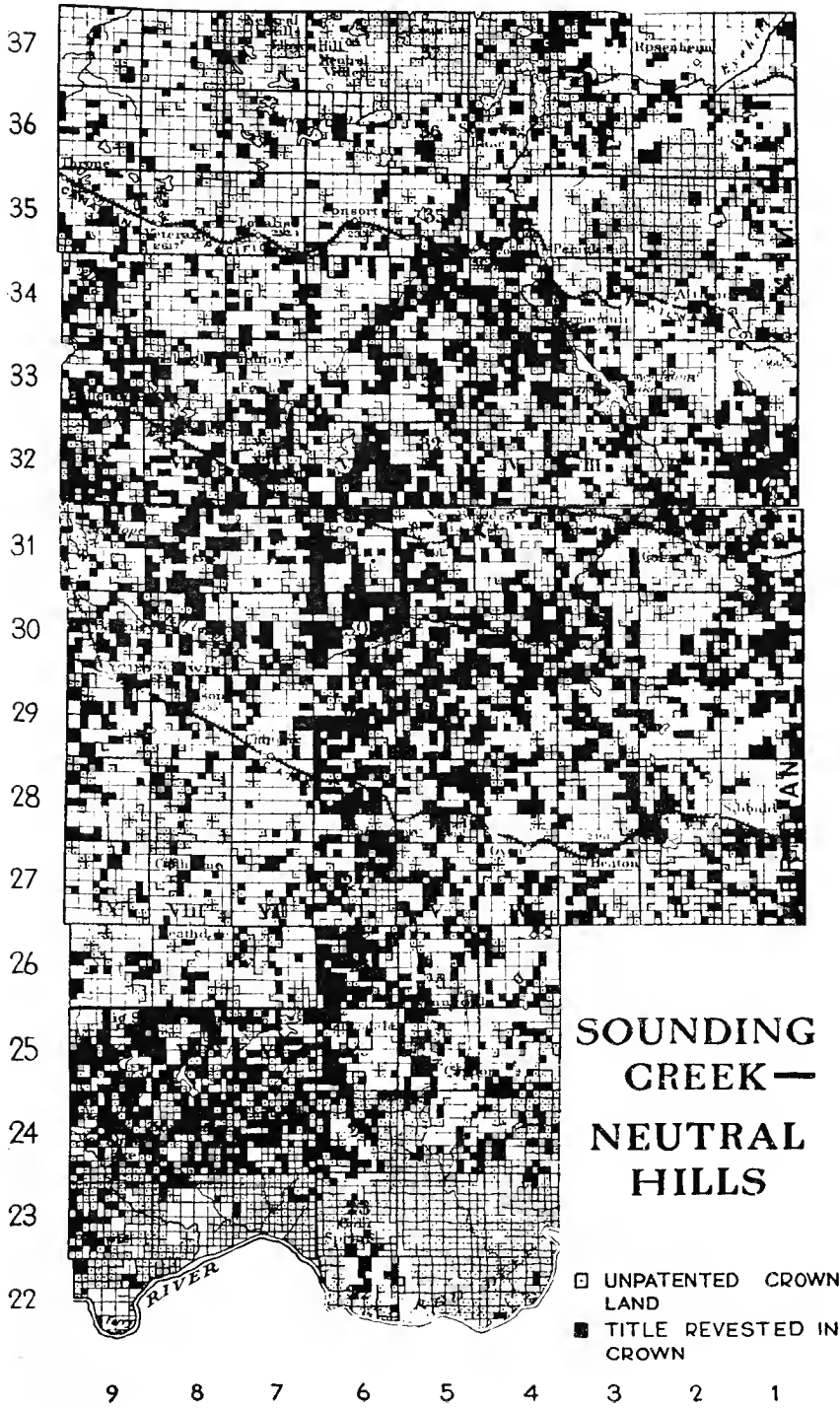
Notifications (Land Patents).—A glance at the chart included in this report will reveal that the area patented during the fiscal year ending March 31st, 1941 almost equals the area patented in the previous fiscal year. The total area patented during the year under review is 295,649.119 acres, and in addition 60 parcels in subdivisions were disposed of, particulars of which are as follows:

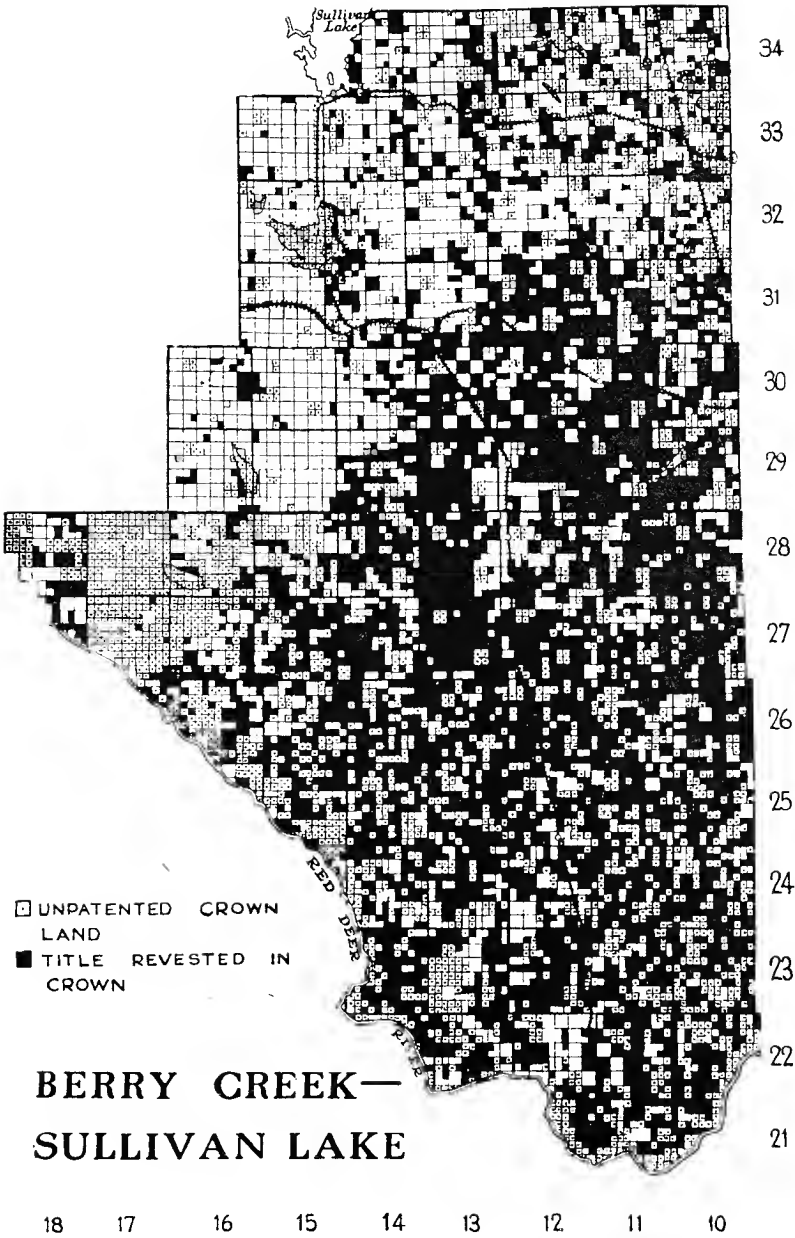
Classification	Notifications	Area (Acres)
Homesteads	1,380	208,562.245
Second homesteads	382	57,748.33
Soldier grants	47	7,401.80
School lands' sales	92	12,370.941
Sales (including lots in subdivisions)	99	4,642.668
Special grants	37	543.305
School lands' grants	6	23.74
Purchased homesteads	2	319.00
Exchange of lands	3	2,788.35
Release of habendum clauses	4	86.91
Calgary and Edmonton Railway Company's land subsidy grants—		
Surface	2	669.80
Minerals	1	483.00
Canadian National Railway's sale (Special Areas)	1	1.61
Canadian Pacific Railway's sale (Special Areas)	1	6.27
Northern Alberta Railway Company's sale	1	1.15
TOTALS	2,058	295,649.119

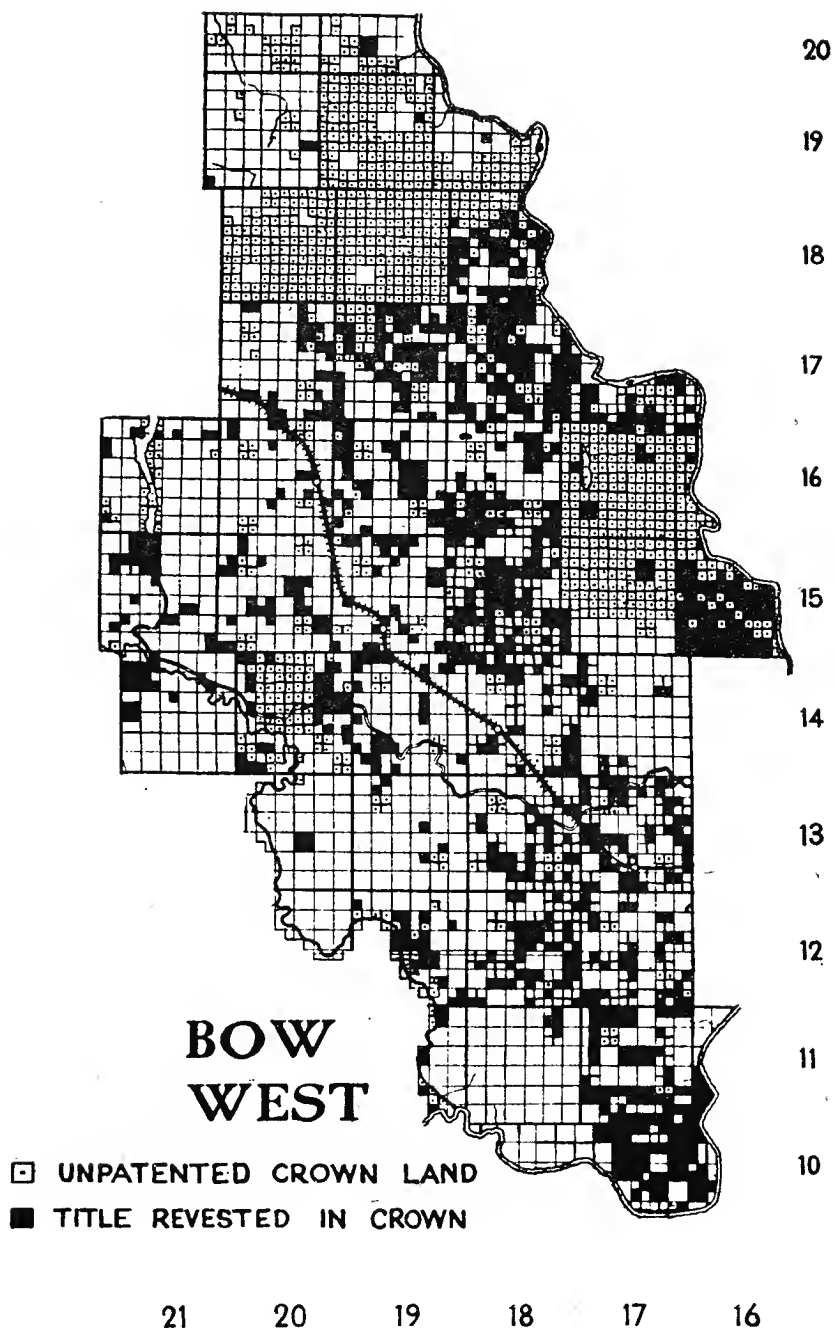
Actually 2,056 notifications were issued. The difference of two notifications in the total is due to the fact that one was issued combining a homestead and sale, and the other covering a school lands' grant and school lands' sale.

CHART SHOWING ACRES PATENTED
FROM OCTOBER 1st 1930 TO MARCH 31st 1941

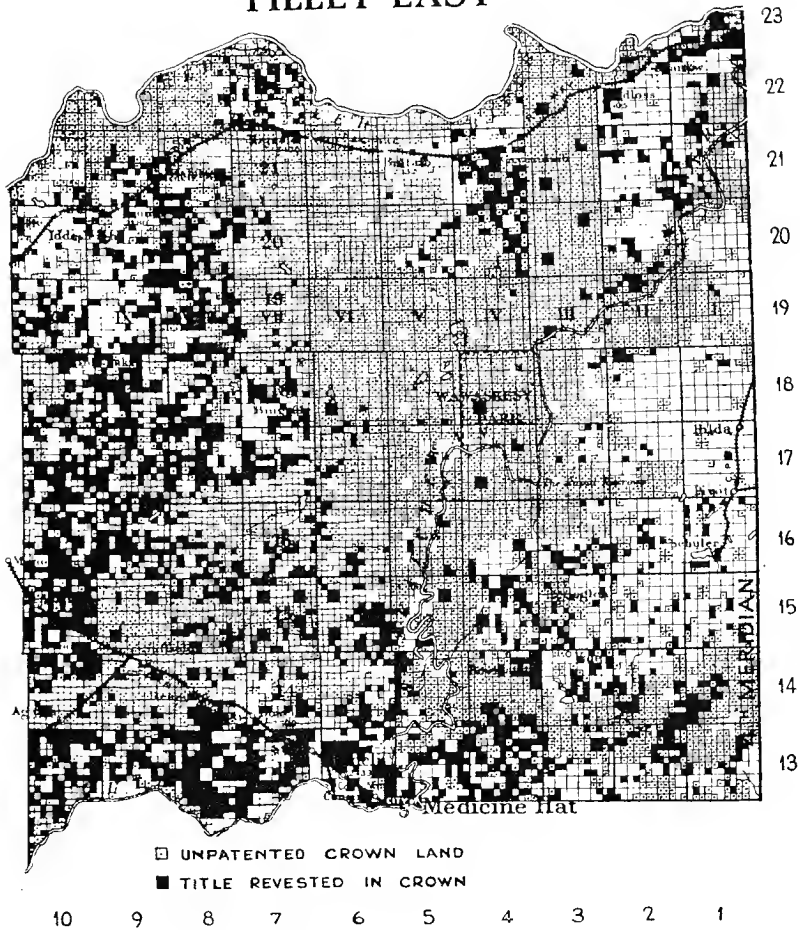








TILLEY EAST



Details of sales in subdivisions which are included in the 99 notifications referred to above:

	Notifications	Parcels	
		No. of Lots	No. of Blocks
Whitla, Plan 191 AG	1	1	.....
Coleman, Plan 6808 CU	8	11	.....
Maple Leaf, Plan 6224 Y	1	2	.....
Canmore, Plan 1095 F	6	6	.....
Maple Leaf, Plan 6632 Y	3	6	.....
Maple Leaf, Plan 7242 AI	5	11	.....
St. Albert Settlement	1	1	.....
High River, Plan 5830 W	1	.....	1
Townsite of Lac La Biche, P. 4313 BF	1	1	.....
Jarvie	5	5	.....
Carbondale, Plan 232 AI	1	1	.....
Morningside, Plan XVIII	1	1	.....
Patricia Townsite, Plan 1217 BA	2	3	.....
Bellevue, Plan 7134 AI	1	1	.....
Donnelly, Plan 204 CL	2	2	.....
Hemaruka, Plan 4934 DO	1	1	.....
	40	53	1

School lands' sales included in the 92 notifications referred to above:

	Notifications	Parcels	
		No. of Lots	No. of Blocks
McLennan Townsite, Plan 1394 EU	1	1	....
Special grants included in the 37 notifications referred to above:			
Lake View, Plan 2026 AJ	1	1	....
New Saratoga, Plan 1314 P	1	4	....
	—	59	1
TOTALS	43	60	—

Special Areas.—In the opening paragraph of this report reference is made to the 295,649.119 acres of Crown lands which were patented. It is important also to relate that hundreds of parcels of lands in the Special Areas comprising 219,018 acres, were reverted in the Crown due to non-payment of taxes. In the previous fiscal year the Crown acquired through this procedure an area amounting to 321,000 acres, so that it will be readily seen that well over half a million acres of land have returned to the Crown during the last two years, whereas, during the same period a slightly greater area, namely 597,080 acres, more or less, of Crown lands passed into private ownership by the issue of notifications.

It should be pointed out that practically all the lands which had been acquired by the Crown through non-payment of taxes were made up of farms abandoned by settlers due to continuous crop failures. The process of acquiring these abandoned farmsteads is continuing, and, at the present rate, the time is not far distant when the majority of the lands will have reverted to the Crown. Included in this report is a map of each Special Area showing the tax recovery lands to which the Crown has now acquired title, and also the unpatented Crown lands.

There are still cases where the pioneer settlers are not daunted by crop failures and in spite of years of hard toil there is still evidence of a strong determination to win through and stay with the land that has for so many years been home. The Department is conscious of such cases and where Crown lands are avail the residents can obtain a lease in order to supplement their own holdings.

Some of the residents still retain title to their lands, and where such lands are scattered a policy has been instituted by the Department whereby these scattered holdings may be exchanged for Crown lands in one block, thus consolidating the holdings in order to permit of more economical farming of the unit.

Water, of course, is a problem in these areas, and exchanges are permissible in order that the resident may have access to a water supply. At other times, exchanges are allowed so that children will be located closer to a school.

Many maps, charts and statistics have been compiled by this Division showing in graphic form the problems, which include education, hospitalization, road construction, etc., confronting the administrators and the scattered settlers. From time to time the records of the Special Areas have passed through various offices, adding more or less to the confusion, and the Technical Division still continues to spend a great deal of time setting up new records and plans and elucidating old records. A complete check of the assessment records was found essential and many errors were discovered.

Some were owing to the fact that lands appearing by title in the name of the Crown were really privately owned, due to the owners holding unregistered transfers which were issued many years previous to the transfer of the Special Areas to this Department. These transfers should have been registered in the Land Titles Office but either the owners forgot to do so or were influenced by the Land Titles Office registration charge and postponed completion of the

transfer. The practice of sending out transfers to the owners has been definitely discontinued and transfer of ownership from the Crown is affected by notification, which is sent direct to the Land Titles Office and registered in the new owner's name.

Agreements for Sale.—The cancellation of old agreements for sale referred to in last year's report is being continued. Agreements were executed many years ago by the now defunct municipalities or the Department of Municipal Affairs. In many cases the purchasers have left the land and in many other cases the obligations of the contracts seem to have been completely forgotten.

Exchange of Lands.—Some years ago and previous to the transfer of the Special Areas to this Department, the administrators arranged with the Credit Foncier Franco-Canadien to exchange some scattered quarter sections of this company's land for a block of Crown lands of equal value, comprising 1,764 acres, more or less. The Credit Foncier lands were transferred to the Department of Lands and Mines in November, 1938, and on the 1st of October, 1940, Order in Council, No. 1340/40 was passed authorizing the transfer of the block of Crown lands to the company.

Old R.N.W.M.P. Reservation, Pincher Creek.—Under the provisions of the agreement between the governments of the Dominion of Canada and the Province of Alberta respecting the Natural Resources—P.C. No. 3,880, dated at Ottawa, 13th of August, 1940—this reserve and the buildings were transferred to the province. Whilst the buildings are dilapidated and in a state of disrepair, the land itself is a desirable piece of property, located in the east end of the town of Pincher Creek. It is bounded on the north by the creek and on the west end of this block of land is located the provincial Forestry building. The area of this parcel is 8.60 acres, more or less.

Soldier Settlement Board Lands.—Only three parcels of land were transferred to the province, particulars of which are as follows: That portion of the south-west quarter of section 3, township 64, range 1, west of the fifth meridian, lying north of the river, by P.C., No. 1,476, dated the 3rd of March, 1941; the south-west quarter of section 1, township 43, range 9, west of the fourth meridian, by P.C., No. 2,052, dated the 21st of May, 1940; the south-west quarter of section 34, township 27, range 14, west of the fourth meridian, by P.C., No. 2,070, dated the 21st of May, 1940.

Roadways.—There was a decrease this year in the number of quarter sections of Crown lands affected by the surveyed roadways, surveys of which were executed by the Department of Public Works and by private surveyors employed by the various municipal districts. A total of 81 plans was filed in this Division affecting 262 parcels of land.

New Surveys.—A complaint was laid in connection with the operation of a refreshment booth located on 12th Street East in Calgary at the south approach of the St. George's Island bridge. As this location was close to the original bank of the Bow River, it was necessary to have a survey made in order to ascertain the ownership of the land upon which the booth was erected. The survey revealed that an area of land had been permanently given up by the change of the course of the Bow River. This land was occupied by transients and it was felt that the City of Calgary was in a better position to deal with these transients within its city limits and accordingly arrangements were made to transfer the land to the City of Calgary in return for which the city undertook to defray the cost of the survey. At the time of the survey it was discovered that portion of this accrued area fell within the limits of the right of way of the Canadian National Railways and the attention of the railway company will be

called to this fact in order that a notification may issue in the name of this company and thus complete the title to the balance of the railway right of way.

Due to the construction of various buildings—cottages, etc.—the building of which had been permitted on land granted by lease for recreational purposes to the towns of Coleman and Blairmore, it was found expedient to effect the cancellation of this lease. A survey was made which showed that quite a community was established along the southerly and westerly shores of Crowsnest Lake in section 9, township 8, range 5, west of the fifth meridian. Land was staked out surrounding each building or group of buildings, and it is the intention of the Department to dispose of these areas by lease for which an annual rental will be charged. The residential rentals will, of course, be more reasonable than the rentals for locations upon which commercial operations are being conducted.

On the south-east quarter of section 29, township 61, range 10, west of the fourth meridian the danger of a squatter situation appeared to be developing. A survey dividing the land into a small subdivision of lots and blocks was made in order that this area may be disposed of in an orderly fashion by lease to the residents. The subdivision is known as St. Lina.

A squatter situation had already developed on Crown lands in the north-east quarter of section 15, township 28, range 19, west of the fourth meridian, north of the Red Deer River, which had been created by miners from the adjoining coal mines. A preliminary survey was staked out and the location of the various buildings ascertained in order that leases may be issued accordingly.

The City of Calgary.—North-west quarter of section 36, township 23, range 1, west of the fifth meridian: Reference was made in last year's report to an application of the British American Oil Company, Limited to the City of Calgary for a pipe-line right of way at this location, at which time it was discovered that there were no Dominion traverse notes along a certain portion of the bank of the river.

The survey has now been completed and the plan filed in this Division under No. 278 Gen. In view of the fact that the City of Calgary transferred to the Crown all that portion of the north-west quarter of section 36, lying north and west of the river, containing 27 acres, more or less, according to the old survey of 1885, and bore the expense of the new survey, a notification was issued on the 2nd of August, 1940, in favour of the City of Calgary, for all that portion of this quarter section lying north and west of the river as defined by a new survey and containing 32 acres, more or less.

Tieland, Townships 66 and 67, Range 2, West of the Fifth Meridian.—Publication of the township plans of this survey have been delayed due to the rush of work entailed by the issue of war maps in the Surveyor-General's office at Ottawa. The plan of survey of the railway right of way through the newly surveyed section of these townships has, however, been approved by the Board of Transport Commissioners and a copy of this survey is now on file in this Division under No. 504. Consideration will now be given to the issue of a free grant in favour of the Northern Alberta Railways Company for the right of way through these newly surveyed lands in accordance with the agreement of sale of the railways by the Provincial Government.

Township 69, Range 26, West of the Fifth Meridian.—A copy of the plan of survey of this township has been forwarded to Ottawa to be lithographed.

The following new plans of survey, approved by the Director of Surveys, have been lithographed by the Department of Mines and Resources, Ottawa, and released for distribution:

Townships 69 and 70, range 27, west of the 5th meridian
 Township 80, range 3, west of the 6th meridian
 Township 70, range 6, west of the 6th meridian
 Townships 76 and 77, range 18, west of the 5th meridian
 Townships 76 and 77, range 19, west of the 5th meridian

New Coal Areas Map of Alberta.—For many years there has been a great need for a new map showing the coal areas of Alberta. Dr. J. A. Allan of the University has realized that the old map needed revision and in co-operation with this Division a new map was drafted, based upon geological formations described by Dr. Allan. Three thousand copies of this map were run off the press defining in colours the different coal areas. The legend shows four coal areas, namely, the Edmonton, Belly River, Belly River (including Edmonton) and Kootenay. There has been a considerable demand for these maps. A supply was forwarded to Mr. E. S. Clarry, Alberta Trade Commissioner at Toronto by the Department of Trade and Industry. The many commendations, received in connection with this map, have well justified its publication. It is drawn to a scale of twenty miles to the inch, and sold at twenty-five cents per copy.

New Map of Alberta.—The publication of an up-to-date map of the province, drawn to a convenient scale, has been in anticipation for some time and it is gratifying to report that considerable progress has been made in this direction. Two draftsmen have been assigned to this work which should be completed early in the forthcoming year. It has been decided that this map will be published on a scale of sixteen miles to the inch, being on the same scale as the map of Saskatchewan which has been issued. This latter map was prepared and printed at the office of the Surveyor-General and Chief, Hydrographic Service, Department of Mines and Resources, Ottawa.

Changes in the Boundaries of Banff National Park.—At the time of the transfer of the natural resources the boundaries of the national parks for the most part were by metes and bounds and followed the crests of the mountain ranges. It has since been deemed advisable to have these boundaries surveyed and shown on an official map of the Banff National Park.

This survey revealed that some changes were necessary in the boundaries whereby certain lands in the forest reserve would be included in the park, and certain park areas would become provincial forest reserve. Correspondence has been carried on for some time with the Department of Mines and Resources, Ottawa, and at the last Session of the Alberta Legislative Assembly, the Land Titles Act was amended to permit the filing of the official plan showing the newly established boundaries. This plan was duly signed by the Honourable T. A. Crerar on behalf of the Dominion and by the Honourable N. E. Tanner on behalf of the Province, and was filed in the Land Titles Office at Calgary on the 18th of April, 1941, under No. 3845 E.Q., and in the Technical Division under No. 293 Gen.

Addition of Lands to the Crowsnest Forest Reserve.—Portion of sections 16, 17, 20, 21, 22 and 27 in township 11, range 1, west of the fifth meridian, previously taken out of this reserve, were re-established in the reserve by Order in Council, No. 1730/40, dated the 24th day of December, 1940.

Soil Survey.—The Crown lands in the following townships were subject to an examination by the Department's soil surveyors:

Townships 78, 79, 80, 81, 82, 83, 84, 85 and 86 in ranges 20 and 21, west of the 5th meridian;
 Townships 78, 79, 80, 81 and that portion of township 82, east of the Smoky River, in range 22, west of the 5th meridian;
 Those portions of townships 78, 79, 80 and 81, east of the Smoky River, in range 23, west of the 5th meridian;
 That portion of township 78, range 24, west of the 5th meridian, east of the Smoky River;
 Townships 83 and 84 in ranges 1, 2 and 3, west of the 6th meridian.

The individual quarters were inspected separately, the soil being analyzed at frequent intervals over the quarter. At the same time, topography, covering, improvements, the cost of clearing and breaking and the value of the land were recorded in a field book. Quarters of which less than eighty acres were suitable for cultivation were classified as not meeting the necessary requirements for settlement.

The work was carried out on foot and on saddle horses, the horses being used to cover the quarter sections farthest from camp. Where the main camp could not be moved within a reasonable distance of the quarters to be worked, a fly camp was transported into the area by pack horses from which two men worked until the area was completed. Individual scattered quarters were inspected by car where possible.

Soil.—The whole of the area inspected lies within the grey-wooded soil belt. Typical wooded soils in Alberta have the following characteristic profile: The upper layer or A_0 horizon consists largely of leaf mould or plant debris and varies in thickness from one to four inches. In some cases this layer may be partially or entirely destroyed by fire. Beneath this layer is another thin layer designated as the A_1 . It is a mineral soil, dark brown to drab in colour, varying from one-half to four inches in thickness. This A_1 layer may not be present in the poorer soils. Beneath the A_1 layer is a light coloured badly leached A_2 layer varying in thickness from four to twelve inches. The finer clay particles have been leached out of the A_2 layer and deposited below in the B_1 layer which is darker in colour and heavier in texture. The B_1 layer varies in thickness from one to four feet. This profile varies greatly; the good soils, W_1 , have a fairly thick A_1 layer and a shallow A_2 layer, while the poor soils, W_3 , have no A_1 layer and a very deep A_2 layer. The W_2 soils are intermediate between these two.

These grey-wooded soils are initially low in fertility and lacking in active organic matter. For this reason, these soils require special attention if satisfactory crops are to be produced on them. The growing of suitable legume crops and use of commercial fertilizer are necessary on the poorer class of soils.

The majority of the soil covered on this survey was of the second and third class wooded type. Very little first class soil was encountered. In many cases, where good soil was found, the area was very inaccessible and would require heavy clearing. In some cases where good soil was found the topography was too rough to permit cultivation.

Considerable muskeg and swamp land areas were encountered but this muskeg at some future time will no doubt be considered good farm land.

It had been hoped that a considerable area of suitable lands would be discovered for community settlement but in this regard the results were disappointing, and general speaking, desirable lands were in scattered locations. The Department is fully conscious that post-war settlement upon the land, which was quite a problem after World War No. 1, should now be given every consideration, and that plans should be laid well in advance in order to be prepared to meet the demand for settlement upon the land after hostilities have ceased.

It may be deemed advisable to approach the Dominion Government and in co-operation inaugurate an extensive survey in order to locate readily suitable lands when the demand arises. It is quite possible that available and suitable lands, which have been lost through non-payment of taxes, may be found in established communities, titles to which lands are held by the various municipalities, Department of Municipal Affairs and Department of Lands and Mines.

A well-organized inspection of these lands may bring gratifying results, but should this not be the case then consideration must be given to the locating and surveying of new lands, bearing in mind their accessibility to transportation by road and rail.

From this year's survey, which includes a number of inspections of quarter sections scattered all over the province, the following information has been obtained. Applications for these lands have been received under Agricultural Lease Regulations.

	Quarter sections
Non arable	1,716
Arable	802
Potentially arable	175
TOTAL.....	<u>2,693</u>

Those listed above as potentially arable represent either lands which are at present swampy, or lands, the cost of clearing of which, would not at the present time be economical.

Later, when an increased demand for land becomes more noticeable than at present, a considerable percentage of the lands classified as non arable can, with proper supervision, be successfully farmed. The above lands are located in the Peace River, Edmonton and Lethbridge land districts.

This result unmistakably emphasizes the necessity of a real effort being put forward in order that the Department may be in a position to supervise land settlement on a large scale when the time comes.

Land Subsidy Account.—The Calgary and Edmonton Railway Company has now made its final selection in settlement of the Land Subsidy Account.

The mineral rights on 40 acres, comprising portion of section 7, township 8, range 4, west of the fifth meridian, were granted by notification dated the 7th of December, 1940 to this Company. An additional area of 483 acres, covering mineral rights in township 33, range 22, west of the fourth meridian, was also granted to the Company by notification dated the 8th of January, 1941. The Calgary and Edmonton Land Company was entitled to surface rights amounting to 613.73 acres, more or less, and on the 8th of January, 1941 surface rights, located in township 33, range 22, west of the fourth meridian, amounting to 629.80 acres, more or less, were granted. The excess area of 16.07 acres, over and above the area to which the Company was entitled, was sold at the rate of \$1.00 per acre.

Leases and Licences of Occupation.—Many applications under this heading were received and disposed of from power, oil, railway and lumber companies as well as from private individuals. These applications covered power transmission line rights of way, pipe-line rights of way, spur tracks, logging roads and reservoir sites. Due to the boom in the lumber industry there has been unusual activity regarding logging roads.

Photostat Machine.—The value of the Department's photostat machine is steadily being recognized throughout the Service and a large volume of work is now being done for all Government departments by this process.

Preservation of Records on Film.—Reference was made in last year's report to the problem of storing the large volume of closed files and a solution of this difficulty has been provided by an amendment to Chapter 75 of the Department of Lands and Mines Act.

This amendment was assented to on March 14th, 1941 and now photographs can be taken of any papers, books, files, documents or plans of record in the Department that relate to transactions that have been concluded for a period of more than one year.

The film of these photographs must be checked and duly certified under the signature of an officer of the Department nominated for such purpose by the Minister, after which such documents, etc., may be destroyed. This amendment further provides that a print from any such photographic film, duly certified

under the signature of said officer, or failing such signature, the signature of any other officer of the Department duly nominated for the purpose, shall in all legal proceedings be received in evidence for all purposes for which the original would have been received. This method of preserving the records of the Department brings about a compression of the matter photographed in such a way as to save 99 per cent of the filing equipment and space formerly required for the originals.

The introduction of this modern method of preserving public documents was first made in Great Britain, coming from the United States, by The British Museum, which uses it for all kinds of valuable and irreplaceable records. The City of Darlington in the County of Durham, one of the iron and steel centres of north-east England, claims to be the first English municipality to have adopted this means of preserving records against air raids. Four films are made of the record and carefully stored in four different places in the city. Since Darlington started this practice, many other municipalities have followed its example.

It should be explained that the method consists of making negatives on strips of 16 millimeter film, 100 feet long, which can be readily thrown upon a screen when required.

Maps and Plans.—There has been a decided increase in the demand for maps and plans, due in no small measure to requirements of the Army and Air Force, with which branches of the Service this Division has, to the best of its ability, co-operated.

Accounting Division

REPORT OF THE ACTING ACCOUNTANT, J. W. PATRICK

Revenue for the year for the various branches of the Department, excluding Special Areas, amounted to \$2,031,494.38. This was the highest in the history of the Department and an increase of \$87,395.56 over the previous fiscal year. Main increases and decreases were as follows:—

	Increase	Decrease
Grazing permits, fees, rentals, etc.		\$ 21,625.14
Timber fees, dues, rentals, etc.	\$248,634.48	
Coal fees, rentals, etc.		25,841.07
Coal royalties	31,240.53	
Petroleum and Natural Gas: Fees, rentals, etc.		110,842.90
Miscellaneous		34,170.34
Net revenue increase		87,395.56
	<u>\$279,875.01</u>	<u>\$279,875.01</u>

Total expenditures from appropriations amounted to \$670,278.85 as compared with \$708,605.34 for the previous year. There was therefore a surplus of \$1,361,215.53 on income account.

Special Areas and Special Districts.—Collections from Special Areas and Special Districts amounted to \$633,745.14, an increase of \$215,677.08 over the previous fiscal year. Increases and decreases were as follows:—

	Increase	Decrease
Taxes	\$136,995.27	
Agricultural advances	57,526.60	
Special Area trust collections	36,419.07	
Miscellaneous		\$ 15,263.86
Net increase in collections		215,677.08
	<u>\$230,940.94</u>	<u>\$230,940.94</u>

All expenditures were made from funds in the Special Areas and Special Districts Trusts Accounts. These expenditures amounted to \$329,724.31. A temporary loan of \$29,741.36 was made from the Provincial Treasurer to meet requisitions, but this was repaid before the end of the year. No agricultural advances were necessary.

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DEPARTMENT OF LANDS AND MINES

STATEMENT OF RECEIPTS FROM ALL SOURCES STATEMENT A.
From April 1, 1940 to March 31, 1941

	Gross Receipts	Refunds	Net Revenue
Income Account—Statement B	\$2,056,490.38	\$ 24,996.00	\$2,031,494.38
Capital Account—Statement C	9,601.42	90.03	9,511.39
Transferred to other Departments, Statement D	851.49		851.49
School Lands Trust Fund	77,145.39	556.05	76,589.34
Special Areas and Special Districts, Statement J.....	643,665.09	9,919.95	633,745.14
Unapplied Receipts carried forward (subject to refund)	87,294.75	49,259.61	38,035.14
Improvements	5,891.38	2,992.17	2,899.21
Land patents cultivation crop shares	1,492.29		1,492.29
School lands cultivation crop shares	33,791.91		33,791.91
Grazing permits, fees, rentals, etc.	25,409.25		25,409.25
	<u>\$2,941,633.35</u>	<u>\$ 87,813.81</u>	<u>\$2,853,819.54</u>

STATEMENT OF RECEIPTS INCOME ACCOUNT STATEMENT B.
From April 1, 1940 to March 31, 1941

INCOME ACCOUNT:	Gross Receipts	Refunds	Net Revenue
<i>Lands and Grazing Branch:</i>			
Casual	\$ 7,613.73	\$ 220.95	\$ 7,392.78
Grazing permits, fees, rentals, etc.	101,127.91	936.01	100,191.90
Play permits, fees, dues, etc.	3,607.20	137.25	3,469.95
Agricultural fees, rentals, etc.	1,373.04	260.00	1,113.04
Improvement collection fees	1,148.77		1,148.77
Cancellation fees	2.00		2.00
General sales interest	1,649.64		1,649.64
Cultivation fees, rentals, etc.	9,664.96	865.25	8,799.71
Surface rentals	1,776.56		1,776.56
<i>Timber Branch:</i>			
Casual	5,279.03	2.78	5,276.25
Timber fees, dues, rentals, etc.	609,709.20	2,809.61	606,899.59
<i>Mining Lands Branch:</i>			
Casual	12,829.71		12,829.71
Coal fees, rentals, etc.	86,337.58	891.60	85,445.98
Coal Mines Act sundry revenue	5,221.50	18.00	5,203.50
Coal royalties	200,045.68		200,045.68
<i>Petroleum and Natural Gas:</i>			
Fees, rentals, etc.	230,532.03	687.25	229,844.78
Royalties	411,963.65		411,963.65
<i>School Lands Branch:</i>			
Interest on sales	70,706.67	300.00	70,406.67
Miscellaneous	285,087.71	17,716.57	267,371.14
<i>Miscellaneous:</i>			
Casual	6,857.54	84.86	6,772.68
Services and supplies	2,599.04	5.87	2,593.17
Reimbursement of salaries and expenses	491.23		491.23
Tax recovery office fees	866.00	60.00	806.00
Total carried to Statement A.....	<u>\$2,056,490.38</u>	<u>\$ 24,996.00</u>	<u>\$2,031,494.38</u>
<i>Special Districts (carried to Statement G):</i>			
1936 Seed grain interest	431.95		431.95
1939 Agricultural advances interest	331.14	.60	330.54
1937-38 Feed and fodder interest	674.25		674.25
1938-39 Feed and fodder interest	362.83		362.83
TOTAL INCOME ACCOUNT.....	<u>\$2,058,290.55</u>	<u>\$ 24,996.60</u>	<u>\$2,033,293.95</u>

STATEMENT OF RECEIPTS CAPITAL ACCOUNT STATEMENT C.
From April 1, 1940 to March 31, 1941

	Gross Receipts	Refunds	Net Revenue
Land sales principal	\$ 9,601.42	\$ 90.03	\$ 9,511.39

STATEMENT D.

STATEMENT OF RECEIPTS, REVENUE TRANSFERRED TO OTHER DEPARTMENTS

From April 1, 1940 to March 31, 1941

Services and supplies (National Forestry Programme)	\$ 24.72		\$ 24.72
Dominion of Canada re-imbursement (National Forestry Programme)	428.94		428.94
Refunds of previous year's Expenditure	141.33		141.33
Angling permits	256.50		256.50
Total carried to Statement A	\$ 851.49		\$ 851.49
Special Districts (carried to Statement J):			
Social Service Tax	53,726.07	10.20	53,715.87
	\$ 54,577.56	\$ 10.20	\$ 54,567.36

STATEMENT E.

STATEMENT OF RECEIPTS AND DISPOSITION OF LEVIED SCHOOL TAXES
TO THE END OF MAY, 1940

From then on collections are included with general tax collections

Receipts:			
Gross Receipts			\$ 5,978.70
Refunds			
Net to Statement J			\$ 5,978.70
Disposition:			
Repaid to Department of Municipal Affairs to apply on Implemented Loans			\$ 2,460.86
To Provincial Treasurer to apply on 1939 Loan for School Requisitions			3,517.84
			\$ 5,978.70

STATEMENT F.

STATEMENT OF RECEIPTS AND DISPOSITION OF HOSPITAL TAXES
TO THE END OF MAY, 1940

From then on collections are included with general tax collections

Receipts:			
Gross receipts			\$ 234.15
Refunds			
Net to Statement J			\$ 234.15
Disposition:			
To Provincial Treasurer to apply on 1939 Loan for Hospital Requisitions			\$ 234.15

STATEMENT G.

STATEMENT OF RECEIPTS AND DISPOSITION OF AGRICULTURAL ADVANCES

From April 1, 1940 to March 31, 1941

Receipts:				
Gross receipts				\$103,907.28
Refunds				
Net to Statement J				\$103,907.28
Disposition:				
1937 Seed grain	Principal	Interest		
1937 Seed grain	\$ 98.70	\$ 9.01	Repaid to banks	
	18,674.68	5,286.21	To Provincial Treasurer	
Audit Statement	Principal	Interest		
Less 1940 collections returned from Department of Municipal Affairs	\$18,765.67	\$ 5,297.60		
	\$18,674.68	\$ 5,286.21		
	\$18,674.68	\$ 5,286.21		
1938 Agricultural advances	\$55,695.60	\$ 8,935.24	Repaid to banks	
1936 Seed grain	1,201.56	431.95	To Provincial Treasurer	
1939 Agricultural advances	4,354.71	330.54	To Provincial Treasurer	
1937-38 Feed and fodder	4,083.81	674.25	To Provincial Treasurer	
1938-39 Feed and fodder	3,768.19	362.83	To Provincial Treasurer	
	\$87,877.25	\$16,030.03		
			\$ 87,877.25	
			16,030.03	
			\$103,907.28	

DEPARTMENT OF LANDS AND MINES

STATEMENT H.

GOVERNMENT OF THE PROVINCE OF ALBERTA
 DEPARTMENT OF LANDS AND MINES
 SPECIAL AREAS TRUST ACCOUNT
 STATEMENT OF RECEIPTS AND PAYMENTS
 For the year ended March 31, 1941

Cash in Bank, March 31, 1940		\$112,796.73
Receipts:		
Grazing rentals	\$ 54,732.68	
Cultivation rentals	41,426.21	
Sale of buildings	8,545.52	
Bank interest	1,207.29	
Equipment rentals, 1939	4,953.62	
Equipment rentals, 1940	9,194.84	
Miscellaneous	836.60	
		<u>120,896.76</u>
		\$233,693.49
Payments:		
Construction of dams	\$ 230.80	
Community pastures	5,600.07	
Grass seed	1,764.60	
Hay meadows	60.80	
Purchase of equipment	17,225.00	
Equipment maintenance	8,236.19	
Funds transferred to Special Districts Trust Account	160,000.00	
International Business Machine costs	3,736.75	
Miscellaneous	2,102.05	
		<u>\$198,956.26</u>
Cash in bank, March 31, 1941		\$ 34,737.23

STATEMENT I.

GOVERNMENT OF THE PROVINCE OF ALBERTA
 DEPARTMENT OF LANDS AND MINES
 SPECIAL DISTRICTS' TRUST ACCOUNT
 STATEMENT OF RECEIPTS AND PAYMENTS
 For the year ended March 31, 1941

Cash in bank, March 31, 1940		\$ 45,909.40
Receipts:		
Funds transferred from Improvement Districts' Trust Account	\$ 380.12	
Funds transferred from Special Areas Trust Account	160,000.00	
General tax collections	117,310.57	
Bank interest	182.29	
Loan from Provincial Treasurer (Repaid)	29,741.36	
Reimbursement of Special Areas items charged to Special Districts Trust during year ending March 31, 1940	877.02	
Miscellaneous	1,735.53	
		<u>310,226.89</u>
		\$356,136.29
Payments:		
School requisitions	\$118,965.11	
Hospital requisitions, 1940	21,162.82	
Repayment of amount owing to Municipal Affairs Hospital Requisition Trust Account	39,366.24	
Repayment, with interest, of loan from Provincial Treasurer	30,021.86	
Road maintenance	28,651.85	
Advance to liquidator for payment of liabilities of former school districts in Special Areas	16,000.00	
Direct relief	9,884.47	
Old age pensions	9,471.52	
Mothers' allowance	6,942.75	
Buildings	5,560.20	
Land Titles Office fees	1,720.00	
Pests and weeds	676.97	
Child welfare	618.37	
Special Areas items charged to Special Districts Trust Account	416.73	
Repayment of debentures of former school districts in Special Areas	348.25	
Purchase of equipment	131.30	
Pensions for the blind	82.08	
Miscellaneous	747.53	
		<u>290,768.05</u>
Cash in bank, March 31, 1941		\$ 65,368.24

As \$230,069.95, general taxes, were not written up at March 31, 1941, the amount collected on general taxes should be \$347,380.52. The true cash standing of the Special Districts should be \$295,438.19, rather than the amount of cash in the bank of \$65,368.24. \$41,713.93, general tax collections, are being transferred to Department of Municipal Affairs, re I.D's 121 and 122.

STATEMENT J.

STATEMENT OF RECEIPTS
SPECIAL AREAS AND SPECIAL DISTRICTS

From April 1, 1940 to March 31, 1941

	Gross Receipts	Refunds	Net
TAXES:			
General Tax, Statement I	\$ 357,019.66	\$ 9,639.14	\$ 347,380.52
Social Service Tax, Statement D	53,726.07	10.20	53,715.87
Levied School Tax, Statement E	5,978.70		5,978.70
Hospital Tax, Statement F	234.15		234.15
Reporting School Tax	9,262.86		9,262.86
Refunded to school districts	\$8,799.59		
5% commission to Special Dis-			
tricts Trust Account	463.27		
Total Collections.....	\$9,262.86		
Hail tax	4,301.98		4,301.98
Refunded to Hail Board	\$4,086.90		
5% commission to Special Dis-			
tricts Trust Account	215.08		
	\$4,301.98		
TOTAL TAX COLLECTIONS	430,523.42	9,649.34	420,874.08
Funds transferred from Improvement Districts			
Trust Account, Statement I	380.12		380.12
Special Districts Bank Interest, Statement I	182.29		182.29
Special Districts Miscellaneous, Statement I	1,057.18		1,057.18
Statement I	\$ 1,735.53		
Less: Reporting schools			
commissions	\$463.27		
Hail commissions ..	215.08		
	678.35		
	\$ 1,057.18		
Special Areas Trust Receipts	107,018.91	270.61	106,748.30
Statement H	\$120,896.76		
Less: Equipment rentals,			
1939	\$4,953.62		
Equipment rentals,			
1940	9,194.84		
	14,148.46		
	\$106,748.30		
Agricultural Advances, Statement G	103,907.28		103,907.28
Collections for Department of Agriculture:			
Horse vaccine	553.50		553.50
Brand and sawdust	42.39		42.39
	\$ 643,665.09	\$ 9,919.95	\$ 633,745.14

STATEMENT K.

STATEMENT OF RECEIPTS BY BRANCHES

For Fiscal Years Ending March 31, 1940 and March 31, 1941

	Fiscal year ending March 31, 1940	Fiscal year ending March 31, 1941
INCOME ACCOUNT:		
Lands and Grazing Branch	\$ 148,286.74	\$ 125,544.35
Timber Branch	359,786.16	612,175.84
Mining Lands Branch	1,050,221.46	945,333.30
School Lands Branch	371,626.59	337,777.81
Miscellaneous	14,177.87	10,663.08
CAPITAL ACCOUNT:		
Land sales principal	8,702.54	9,511.39
TRANSFERRED TO OTHER DEPARTMENTS	19,888.05	851.49
SCHOOL LANDS TRUST FUND	83,664.73	76,589.34
SPECIAL AREAS AND SPECIAL DISTRICTS:		
Taxes	283,878.81	420,874.08
Funds transferred from Improvement Districts Trust		
Account	13,243.80	380.12
Special Districts Bank Interest	21.63	182.29
Special Districts Miscellaneous	1,354.09	1,057.18
Special Areas Trust Receipts	70,329.23	106,748.30
Agricultural advances	46,380.68	103,907.28
Horse vaccine	2,793.50	553.50
Brand and sawdust	66.32	42.39
UNAPPLIED RECEIPTS CARRIED FORWARD:		
Suspense	61,007.15	38,035.14
Improvements	4,308.07	2,899.21
Land patents cultivation crop share	404.16	1,492.29
School lands cultivation crop share	13,494.10	33,791.91
Grazing permits, fees, rentals, etc.	3,853.04	25,409.25
	\$2,557,488.72	\$2,853,819.54

DEPARTMENT OF LANDS AND MINES

STATEMENT L.

SCHOOL LANDS BRANCH
STATEMENT OF RECEIPTS
April 1, 1940 to March 31, 1941

	Receipts	Refunds	Net Revenue
INCOME ACCOUNT:			
Sales: interest	\$ 70,706.67	\$ 300.00	\$ 70,406.67
Grazing fees, rentals, etc.	14,975.44	225.74	14,749.70
Hay fees, dues, etc.	909.44	27.00	882.44
Improvements	135.00	60.00	75.00
Cultivation fees, rentals, etc.	62,694.94	15,071.96	47,622.98
Miscellaneous leases	376.13		376.13
Timber permits, fees, dues, etc.	37,514.37	2,313.18	35,201.19
Coal fees, rentals, etc.	4,191.79		4,191.79
Coal mining royalties	15,841.24		15,841.24
Petroleum and natural gas fees, rentals, etc.	36,298.24	1.50	36,296.74
Petroleum and natural gas royalties	111,371.14		111,371.14
Miscellaneous	779.98	17.19	762.79
	<u>\$ 355,794.38</u>	<u>\$ 18,016.57</u>	<u>\$ 337,777.81</u>
TRUST ACCOUNT:			
School lands sales principal	77,145.39	556.05	76,589.34
	<u>\$ 432,939.77</u>	<u>\$ 18,572.62</u>	<u>\$ 414,367.15</u>

STATEMENT M.

ALBERTA SCHOOL LANDS TRUST FUND
BALANCE SHEET—MARCH 31, 1941
ASSETS

Cash in bank and on hand	\$ 21,395.62	
Investments:		
Dominion of Canada debentures	\$10,225,517.60	
Accrued interest	402.41	
	<u>\$10,225,920.01</u>	
Accounts Receivable:		
Undue principal	933,569.27	
Arrears principal	827,978.16	
	<u>1,761,547.43</u>	
		<u>\$12,008,863.06</u>
LIABILITIES		
Alberta School Lands Trust Fund	\$12,008,863.06	
		<u>\$12,008,863.06</u>

STATEMENT N.

ALBERTA SCHOOL LANDS SALES
REVENUE ACCOUNT

April 1, 1940 to March 31, 1941

Arrears interest as at March 31, 1940	\$ 562,763.59	
Interest charges	257,947.08	
Interest on reinstated accounts	141,053.31	
Interest revenue		\$ 70,406.67
Interest on cancelled sales written off		20,892.05
Amounts transferred from cultivation leases held on reinstated sales ..		39,639.84
Interest reductions granted by School Land Board		297,794.85
Arrears interest as at March 31, 1941		533,032.57
	<u>\$ 961,765.98</u>	<u>\$ 961,765.98</u>

STATEMENT O.

STATEMENT OF COLLECTIONS ON TAX RECOVERY LANDS
April 1, 1940 to March 31, 1941

Grazing permits	\$ 2,076.57
Grazing rentals	3,874.54
Improvements	40.00
Sales principal	928.40
Sales interest	19.20
Cultivation permits	18.00
Cultivation rentals	810.22
Cultivation crop shares	3,979.65
Mineral surface rentals	16.07
Miscellaneous leases	32.48
Miscellaneous use permits .....	.75
Miscellaneous sale of improvements	88.66
Sundry revenue	30.09
	<u>\$ 11,914.63</u>
Office fees	806.00
	<u>\$ 12,720.63</u>

Special Areas Administration

REPORT OF THE SPECIAL AREAS BOARD,

A. C. McCULLY, Chairman

In the previous report of The Special Areas Board attention was drawn to the transfer of all responsibility of administration to the Department of Lands and Mines, and the resulting necessity of reorganization.

With a view to facilitating the work of administration, it was decided to move the Board's offices to some point within the area. On May 1st, 1940 the Board, together with all files, was transferred from Edmonton to Hanna, and temporary offices were opened in the building then occupied by the staff of Special District, No. 2, the local work of Special District, No. 2 being absorbed by the Board members and staff.

During the summer a site was purchased and an up-to-date building erected, which is now occupied by the Board and staff.

In the year under review 560 cultivation permits, 1,126 grazing permits and 162 hay permits were issued. The revenue derived from these sources may be found elsewhere in this report in the Statement of Receipts, Special Areas Trust Account.

Following the policy of issuing new long term leases to residents of the area, 196 applications were dealt with. In dealing with these applications, old allotments and leases were cancelled and a decided effort was made to re-allocate these and other available Crown lands in a manner so that the lease of each applicant would be in as compact a block as possible, at all times recognizing the necessity of having the same well watered. Arrears were consolidated and spread over varying periods of from ten to twenty years.

As a result of the policy to exchange privately owned lands for more desirable Crown lands, 33 applications were received and dealt with, 14 were recommended, 15 were refused, and 4 were held for further investigation.

During the year approximately 90,000 pounds of crested wheat grass were harvested on Crown lands at an average cost of 3c per pound. This includes the cost of harvesting, cleaning and sacking. Of this amount, 22,187 pounds were distributed to 129 farmers for seeding on Crown lands. Owing to the early freeze-up in 1940, the balance of the seed was not distributed until the spring of 1941. At this time 71,656 pounds were distributed to 358 farmers. This latter item will be included in the 1942 report.

The Prairie Farm Rehabilitation Act was again inactive in this area. Consequently, with the exception of a few private constructions, very little water conservation was developed. A small amount of repair work was completed.

Ducks Unlimited constructed three dams during the season, the largest being on the outlet to Plover Lake, a large shallow lake which usually dries up towards the end of the season. With another average run-off a permanent water supply will now be assured in this locality.

Further development work was continued with respect to community pastures and head tax districts, which make some 256,000 acres of pasture lands available to residents of the area who have not sufficient grazing lands adjacent to their own holdings. A total of 3,577 head was pastured during the season.

The majority of settlers using these pastures are the small men who had to sell off their herds under the Dominion Government regulations during the dry

years. These men are building up their herds again and it is felt that the community pastures will be of great assistance to them.

During the season the Board's power grader covered 1,300 miles, the work consisting of light grading and heavy maintenance. The D4 caterpillar equipped with Carry Bug and Bull Dozer operated on heavy repair work such as washouts and approaches to culverts and bridges.

In August an outfit consisting of a D8 caterpillar and a 48" elevating grader was purchased. This outfit completed 27 miles of high standard elevated grade at an approximate operating cost of \$100.00 per mile. A bridge crew, consisting of three men with truck, built 13 bridges, repaired 12 and salvaged 10; built 35 culverts and repaired 25; unloaded several car-loads of posts and lumber; delivered posts and wire to community pastures, and grass seed throughout the area.

The amount of \$28,651.85 shown in the financial statement as road maintenance represents payments in cash. In addition to the above, road work was completed and applied on taxes and relief in the amount of \$16,658.56, or a total of \$45,310.41 was spent on road work.

Statements of receipts and payments are kept under two headings, namely, Special Districts Trust Account and Special Areas Trust Account. Special Districts Trust Account represents the collection and disbursement of moneys collected from titled lands, the Special Areas Trust Account from Crown lands.

SPECIAL DISTRICTS TRUST ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS

For the year ended March 31, 1941		
Cash in bank, March 31, 1940		\$ 45,909.40
Receipts:		
Funds transferred from Improvement Districts' Trust Account	\$ 380.12	
Funds transferred from Special Areas Trust Account	160,000.00	
General tax collections	117,310.57	
Bank interest	182.29	
Loan from Provincial Treasurer (Repaid)	29,741.36	
Reimbursement of Special Areas items, charged to Special Districts Trust Account during year ending March 31, 1940	877.02	
Miscellaneous	1,735.53	
		<u>\$ 310,226.89</u>
		\$ 356,136.29
Payments:		
School requisitions	\$ 118,965.11	
Hospital requisitions, 1940	21,162.82	
Repayment of amount owing to Municipal Affairs Hospital Requisition Trust Account	39,366.24	
Repayment, with interest, of loan from Provincial Treasurer	30,021.86	
Road maintenance	28,651.85	
Advance to liquidator for payment of liabilities of former school districts in Special Areas	16,000.00	
Direct relief	9,884.47	
Old age pensions	9,471.52	
Mothers' allowances	6,942.75	
Buildings	5,560.20	
Land Titles Office fees	1,720.00	
Pests and weeds	676.97	
Child welfare	618.37	
Special Areas items charged to Special Districts Trust Account	416.73	
Repayment of debentures of former school districts in Special Areas	348.25	
Purchase of equipment	131.30	
Pensions for the blind	82.08	
Miscellaneous	747.53	
		<u>290,768.05</u>
Cash in bank, March 31, 1941		<u>\$ 65,368.24</u>

As a total of \$230,069.95, general taxes, was not written up at March 31, 1941, the amount collected on general taxes should be \$347,380.52. The true cash standing of the Special Districts should be \$295,438.19, rather than the amount of cash in the bank of \$65,368.24. A total of \$41,713.93, general tax collections, is being transferred to the Department of Municipal Affairs, re Improvement Districts Nos. 121 and 122.

SPECIAL AREAS TRUST ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
For the year ended March 31, 1941

Cash in bank, March 31, 1940		\$ 112,796.73
Receipts:		
Grazing rentals	\$ 54,732.68	
Cultivation rentals	41,426.21	
Sale of buildings	8,545.52	
Bank interest	1,207.29	
Equipment rentals, 1939	4,953.62	
Equipment rentals, 1940	9,194.84	
Miscellaneous	836.60	
		<u>120,896.76</u>
		\$ 233,693.49
Payments:		
Construction of dams	\$ 230.80	
Community pastures	5,600.07	
Grass seed	1,764.60	
Hay meadows	60.80	
Purchase of equipment	17,225.00	
Equipment maintenance	8,236.19	
Funds transferred to Special Districts Trust Account	160,000.00	
International Business Machine costs	3,736.75	
Miscellaneous	2,102.05	
		<u>198,956.26</u>
Cash in bank, March 31, 1941		\$ 34,737.23

Owing to favourable crop conditions, good collections were made during the year. It will be noted from the financial statement that current collections were considerably in excess of current expenditures. It must not be overlooked, however, that a good portion of these collections represents arrears and as such must be used to liquidate some of the outstanding liabilities. Operating, however, in a region of extremely uncertain crop conditions, it is felt that a good reserve should be held to carry over years of poor collections, rather than to use the entire balance in paying off old liabilities.

DEPARTMENT OF LANDS AND MINES
SPECIAL AREAS AND SPECIAL DISTRICTS
CASH STATEMENT FOR THE FISCAL YEAR 1940-41

(Ending March 31, 1941)

CASH ON HAND MARCH 31, 1940 AND REVENUE FOR YEAR 1940-41:

Cash in Bank, March 31, 1940—Special Districts Trust Account	\$ 45,909.40	
Funds transferred from Department of Municipal Affairs from Improvement Districts Trust Account	380.12	
Credits of old Municipal Districts with Land Titles Office and Workmen's Compensation Board	108.28	
Special District Collections:		
General Tax	\$347,380.52	
Social Service Taxes	53,715.87	
Interest Collections on Agricultural Advances	10,743.78	
Miscellaneous	1,627.25	
Road Maintenance applied on Taxes	12,902.71	
Road Maintenance applied on Relief	545.79	
All Collections from Public Lands in the Special Areas Title to which has been revested in the Crown through Tax Recovery Proceedings	55,190.65	
Special Districts Share of Grazing Collections from Crown Lands in the Special Areas	1,661.69	
Special Districts Share of Crop collected from Crown Lands in the Special Areas	1,244.20	
Bank Interest	182.29	
	<u>\$485,194.75</u>	\$531,592.55

GOVERNMENT CONTRIBUTIONS:

Cash in Bank, March 31, 1940—Special Areas Trust Account	\$112,796.73	
1941 Special Areas Collections on Provincial Lands	48,651.76	
Department of Education Special Grant	100,000.00	
Appropriation No. 1134	69,378.36	
Appropriation No. 1181	23,436.06	
		<u>354,262.91</u>

TOTAL.....\$885,855.46

PAYMENTS:

<i>Special Districts:</i>	
Social Service Taxes	\$ 53,715.87
Schools	216,988.05
Hospitals	23,139.88
Administration Costs	69,378.36
Old Age Pensions	9,471.52
Blind Pensions	82.08
Mothers' Allowance	6,942.75
Child Welfare	618.37
Direct Relief	9,884.47
Medical Relief	17,836.26
Interest on Agricultural Advances	10,743.78
Charitable and Hospital Bills	5,599.80
Road Maintenance Cash	14,503.39
Road Maintenance applied on Taxes	12,902.71
Road Maintenance applied on Relief	545.79
Pests and Weeds	676.97
Buildings	5,560.20
Land Titles Office Fees	1,720.00
Miscellaneous Costs	1,972.56
Purchase of Equipment	17,356.30
Maintenance of Equipment	8,236.19
International Business Machine Costs	3,736.75
Payment of Old School District Liabilities	16,000.00
Interest on Provincial Treasurer Temporary Loan (Repaid)	280.50
Repayment of Amount owing to Municipal Affairs Hospital Requisition Account	39,366.24
Repayment of Debentures of former School Districts in the Special Areas	348.25
	<u>\$547,607.04</u>
<i>Special Areas:</i>	
Construction of Dams	\$ 230.80
Community Pastures	5,600.07
Grass Seed	1,764.60
Hay Meadows	60.80
Miscellaneous	416.73
	<u>8,073.00</u>
TOTAL PAYMENTS	\$555,680.04
CASH BALANCE	<u>\$330,175.42</u>
CASH BALANCE	
Special Districts Trust Account	\$295,438.19
Special Areas Trust Account	34,737.23
	<u>\$330,175.42</u>
<i>Unpaid 1940-41 Bills:</i>	
Balance Rosenheim 1940 School Requisition paid in April, 1941	\$ 956.06
Balance Rosenheim, 1940 Hospital Requisition paid in April, 1941	1,977.06
Provincial Mental Hospital	180.00
Provincial Training School	360.00
Interest on Implemented Loans	2,097.81
Hanna Municipal Hospital Loans	7,938.25
Interest on Direct Loans	3,502.74
Interest on Agricultural Advances	24,226.17
	<u>\$ 41,238.09</u>
<i>1940 Levies:</i>	
General Tax	\$294,687.21
Social Service Tax	37,447.11
TOTAL LEVY	<u>\$332,134.32</u>

J. HARVIE,
Deputy Minister,
Department of Lands and Mines.

